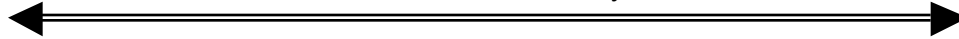


# ***Looking Back/Looking Forward: A Symposium on Electronic Media Preservation***

Friday, May 31, 2002  
Saturday, June 1, 2002

12:30 pm – 5:00 pm  
10:00 am – 5:00 pm

Hosted at Downtown Community TV Center



## **FRIDAY MAY 31, 2002**

- 12:30 pm                      ***Coffee and Check-in***
- 1:00                              ***Welcome, Introductions, Goals***
- 1:30 – 3:00                      ***Issues in Physical Preservation***

Led by *Luke Hones* (Artists Television Access), *Heather Weaver* (Bay Area Video Coalition) and *Kacey Koeberer* (Bay Area Video Coalition), the session will follow the process of preservation from the arrival of a tape to its remastering: from inspection, to cleaning, to playback, and finally duplication. While focusing primarily on 1/2" open reel, we will also consider the impact of the issues raised on other video formats and on audio. We'll look at hardware, including the intermediary devices used to monitor, measure, and "correct" the signals, as well as the documentation of the preservation process. Luke Hone's manuscript, "Reel to Real: BAVC's Remastering Model, a Case Study", concerning the history and configuration of the Bay Area Video Coalition's remastering facility, will be available on the Experimental Television Center's Video History Project web site for study prior to the Symposium. Additional texts on other aspects of remastering are also available on site, and will provide background for our discussion. What is working well? Where are the problems? How can we address issues of inexperience with or lack of understanding of the technology? What further research is required? What is the role of the for-profit sector? How can media arts organizations, conservators, and the larger preservation community contribute?

- 3:00 – 3:15                      ***Break***
- 3:15 – 4:00                      ***Issues in Physical Preservation continued***
- 4:00 – 5:00                      ***The Economics of Physical Preservation***

The economics of BAVC's facility will be discussed. *Electronic Arts Intermix*, *Video Data Bank*, *V Tape* and others will share their experiences with remastering projects. What does it really cost to operate a remastering facility? What are possible models for support of a facility? What problems of access and maintenance do the hardware and devices pose and how can we solve them? What does this discussion of economics tell us about where we need to go from here?

## ***5:30-7:00 Reception at MercerMedia***

Join us at an informal gathering hosted by MercerMedia, 135 West 26th Street 12th Floor, immediately following the last session on Friday. MercerMedia offers a range of audio and video post-production services, and in collaboration with the Standby Program provides media streaming solutions for independent producers.

The symposium is organized by the Experimental Television Center (ETC) in association with Independent Media Arts Preservation (IMAP), Bay Area Video Coalition and the Electronic Media Specialty Group of the AIC (American Institute for the Conservation of Artistic and Historic Works). *Looking Back/Looking Forward* is hosted by the Downtown Community Television Center and is made possible with public funds from the Electronic Media and Film Program of the NYS Council on the Arts, and assistance from IMAP, MercerMedia and Dave Jones Design. The symposium is organized by Sherry Miller Hocking, Assistant Director of the Experimental Television Center, and independent consultant Mona Jimenez.

Downtown Community TV Center is located at 87 Lafayette Street, between White and Walker.

**SATURDAY JUNE 1, 2002**

10:00 am *Coffee and Check-in*

10:30-11:30 *Media Formats Update and Discussion*

*Mona Jimenez* (Materia Media) will briefly summarize the different points of view in the archival and media arts community concerning formats. What are the new media formats - digital tape, optical media – which have become available within the last several years? What do archivists and other professionals recommend for a “preservation format”? What are the pros and cons of various formats? How do these recommendations apply in practice to the independent media community?

11:30-12:30 pm *Assessing a Collection for Preservation*

*Sarah Stauderman* (Smithsonian Institution) will present a summary of the questions archivists and conservators typically ask when prioritizing a list of works from a collection for possible remastering. How do cost and complexity of the remastering process impact decisions? In practice, how are works selected for remastering? Are there similar issues when tackling preservation of hardware and tools?

12:30 – 1:45 *Lunch on your own*

1:45-3:00 *Issues in Capturing Related Histories*

Media preservation also encompasses artists' instruments and tools and paper ephemera, all of which enrich our understanding of the tapes we are trying to save and the history of electronic media art. We will hear about related efforts to document or preserve devices used for audio and video works. We will look at the initiatives of the Daniel Langlois Foundation, the Art and Science Laboratory directed by Steina and Woody Vasulka and the Electronic Music Foundation, directed by Joel Chadabe.

3:00 – 3:15 *Break*

3:15 – 4:30 *What's Next?*

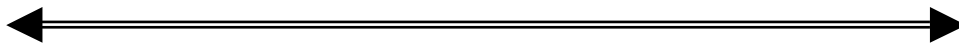
What initiatives or projects are needed? How can we clearly define our goals? What resources are required? How can we raise awareness of the need for preservation of independent works? How can we broaden this conversation and invite others to participate? How can we advance preservation of independent media within the larger context of the history of the electronic arts? How can we enrich the scope of concerns to include artists' tools and ephemera?

4:30-5:00 *Summary and Conclusions*

## **EXPERIMENTAL TELEVISION CENTER LTD.**

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## ***Looking Back/Looking Forward: A Symposium on Electronic Media Preservation***



“Without a consideration of the contributions of video pioneers...any history of American television, not to mention recent American social history, will be incomplete, distorted.”

- Deirdre Boyle, historian and educator, testifying at a 1996 hearing for the *Report on the Study of American Television and Video*.

***Looking Back/Looking Forward*** is a working symposium for artists, media arts staff, conservators, and technical experts focused on the physical preservation of independent electronic media works, and related issues concerning tools and ephemera. *Looking Back/Looking Forward* has invited 58 artists, media arts staff, conservators, and technical experts to evaluate our progress as a field, and speculate about needed initiatives and partnerships. Working reports will be posted on the Experimental Television Center's Video History site, and proceedings will be documented by BAVC.

*Looking Back/Looking Forward* is an activity of the Center's *Video History Project*, an on-going web and research initiative begun in 1994 to reflect the complex evolution of the media arts field, and encourage a collective voice in the crafting of our histories.

The goals of the *Video History Project* are to provide a dynamic vehicle for the creation and dissemination of an inclusive media history, crafted by those who are shaping it; to help establish bridges for intellectual access to information and to position independent media arts activities within a broader cultural context by cultivating research and public programming of these materials by those in the arts, humanities and sciences; and to encourage alliances among collecting institutions and educational and curatorial programs for the preservation of critically endangered works, instruments and documents.

Goals are realized in an interrelated set of activities combining research, information hosting and the organizing of conferences and seminars.

In 1998 the *Video History: Making Connections* conference concerning the links between the early history and contemporary practice was organized by the Center and held at Syracuse University. Bringing together over 250 pioneering practitioners and contemporary artists working in new media and interactive technologies, the conference celebrated our history and established new partnerships with cultural and educational institutions nationally.

Launched in 2000, the *Video History Website* continues to serve as both a research collection and dissemination medium. The site structure depends on 9 interrelated resource databases containing a total of about 3500 records. The resource areas concern People, Tools, Groups, Distribution and Preservation. The Bibliography resource area contains over 1000 entries. In the Chronology area you can generate a timeline of events in media arts history, or view the events within a defined range. The search function allows visitors to search all of the records, encouraging the visitor to discover broad interconnections among people, places and events. Each resource area contains historically significant texts, descriptive information and extensive links. Visit at [www.experimentaltvcenter.org/history](http://www.experimentaltvcenter.org/history).

The Preservation area includes two commissioned papers - *Video Preservation: The Basics* (2000, revised 2002) written by Sherry Miller Hocking and Mona Jimenez, and *Reel to Real: A Case Study of BAVC's Remastering Facility* (2002) written by Luke Hones, and edited by Sherry Miller Hocking and Mona Jimenez. There is also a selection of historically important texts concerning early efforts at media preservation. The working papers from *Looking Back/Looking Forward* will be posted in this resource area.

*Looking Back/Looking Forward* will be documented by Bay Area Video Coalition. BAVC recently announced that with funding from the NEA, they will produce a DVD on videotape preservation. The DVD will include footage of presentations made at *Looking Back/Looking Forward* as well as other recent symposia organized by IMAP and ArtTable. The DVD will feature interviews with leading conservators, curators, media technicians and artists on issues ranging from the latest techniques to ethical issues and viewer experiences. Due for completion at the end of 2002, the DVD, will be distributed to museums, libraries, history archives, media arts organizations and colleges throughout the country.

*Looking Back/Looking Forward* is organized by the Experimental Television Center in association with Independent Media Arts Preservation, Bay Area Video Coalition and the Electronic Media Specialty Group of the American Institute for the Conservation of Artistic and Historic Works. *Looking Back/Looking Forward* is hosted by the Downtown Community Television Center and is made possible with public funds from the Electronic Media and Film Program of the NYS Council on the Arts, and with assistance from MercerMedia and Dave Jones Design. The symposium is organized by collaborators Sherry Miller Hocking, Assistant Director of the Experimental Television Center, and independent consultant Mona Jimenez.

The *Video History Project* has received support from The Andy Warhol Foundation for the Visual Arts, Statewide Challenge Grant Program, the New York State Council on the Arts, and New York Foundation for the Arts Technology Planning Grants Program, and from the Everson Museum of Art, the Media Action Grant Program of Media Alliance, and the Institute for Electronic Arts at Alfred University. Corporate support has been provided by Blackhammer, Dave Jones Design and VidiPax as well as individual contributors. Partners have included the New York State Alliance for Arts Education, IMAP, BAVC and the Electronic Media Specialty Group of AIC. The Project is under the direction of Sherry Miller Hocking of the Experimental Television Center; independent preservation consultant Mona Jimenez served as major contributor for conference and web planning and for the symposium. David Jones Design implemented the web design, and David serves as webmaster.

“The American television and video heritage is now at a crossroads. One direction leads toward catastrophic losses of film and videotape, with the likely exception of studio and network programs in corporate archives that can be recycled for new income. Another direction leads toward the managed preservation of extant television and video materials that bear an important relationship to American history and culture regardless of their reuse potential or monetary value.”

- *Television and Video Preservation 1997: A Study of the Current State of American Television and Video Preservation*, Volume 1, page 123

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SHERRY MILLER HOCKING: I just want to welcome you, first of all, and thank you all for coming. We really appreciate the patience you've shown as we've tried to reschedule this meeting, originally scheduled to be held in Buffalo last fall. We rescheduled, of course, because of September eleventh. So thank you for your understanding.

I want to thank our funders, the New York State Council on the Arts, specifically Debby Silverfine, who is the Deputy Director of Visual Arts at the Council; also, Karen Helmerson, with us today, who is the director of the Electronic Media and Film Program there. I want to thank them not only because of their support for this particular symposium, but also because of their support over the years for preservation activities. I think they have shown remarkable foresight, figuring out early on that this was something that needed to be addressed. I also want to thank our supporters and our partners, IMAP, Independent Media Arts Preservation, under the direction now of Dara Meyers-Kingsley, and their steering committee and board. IMAP has agreed to help us to put up the results of this symposium on the TV Center's History Website. I thank BAVC for not only their support for this symposium, but their assistance with the development by Luke Hones of "Reel to Real", and which is also up on the Video History Website, under the preservation area. Thanks to Mercer Media and Bill Seery, who will host a small reception after today's proceedings. I want to give a big thank-you to David Jones, from Dave Jones Design, who has helped me enormously with the website, and will help me again to get the transcripts up on the website. Thanks to DCTV for hosting this event,

and to Mona and to Luke for all their work. So thanks again for coming. Catherine Martinez, from DCTV, will now say a few words.

CATHERINE MARTINEZ: Yeah, I just wanted to welcome everyone to DCTV [and] specifically to our cyberstudio here. We'll be taping much of the event, I understand. We also have a cyber-studio show every Monday night, so if anyone is in the neighborhood and wants to come down and see how the whole studio works — there's an interactive component, performance, and a documentary. If you're interested in the programs at DCTV, we have our new issue of "Scanlines" out and I wanted you all to take a copy before you leave. Thanks.

MONA JIMENEZ: I was just talking to Kate Horsfield, and we were reminiscing about how we were in New York a couple years ago and we said, "We've got to figure out how to get more tapes remastered. How BAVC did it, and how Luke set up that remastering center in the beginning?" And we said, "Well, you'd need to get together around a couple decks and talk about it." So that is how this started, a conversation. Then as soon as I spoke with Sherry, we had a full-fledged program! So we've expanded beyond that first "let's have a discussion around an AV deck."

As a result, the spirit of this symposium is really a working group as opposed to those of us who happen to be at the front of the room giving information to those of you who happen to be sitting over here. Basically, what we're trying to do is not just hear and learn about, for instance, the BAVC model, but to come out of here with some idea about

what needs to be done next: what research needs to be done? What questions need to be answered? What projects could be started to help move this whole issue along--to get more work remastered, highest quality, lowest cost? Although we're focusing mostly on analog video tomorrow we'll be talking about *Capturing Related Histories*. We wish we could be talking more about audio today, too, because that's a big component. So I would encourage you to think broadly, even though we're mostly focusing on analog video today. At the end of every part of the program, we will try to ask, "What out of this can we capture, in terms of what we need to do research about, or what questions we need to answer?" and then come up with some pretty specific next steps. In addition, there are many different levels of technical expertise in this room, and you may need to rely on each other to clarify things that are said--as opposed to us continually going over the minutiae about basic technical questions.

LUKE HONES: Good afternoon, my name is Luke Hones. I'm from out in San Francisco. I work for Artists' Television Access now but at the time that I was working with Bay Area Video Coalition. As Jon and Heather and I were talking about this session back in San Francisco, one of the images we came up with is when we discuss what it is we did, it's sort of like describing to someone what it's like going to the moon. It's a very detailed process, and it takes a lot of perseverance to set up the kind of center we did. But it's also like you have the background of the Wright brothers. In some ways, we were always searching for more information--for some way of learning more about what it was we were doing. When I got into video, three-quarter inch U-matic was the format that

everyone was using. I never saw a half-inch open reel deck until 1994, when I started doing transfers. The first transfers we did were test transfers; so we learned the systems before we started doing transfers for clients. The summer of 1994 was learning about half-inch open reel for us. We tried to find some good literature from the period when half-inch open reels were the current technology. In my paper, I mention one that I think was particularly useful to me, and that's by Charles Bensinger. It's called The Video Guide. We also got some information from NASA on different cleaning machines. An issue that was being dealt with in another discipline was all of the data tapes that people were using to keep data had to be cleaned, so we looked into what people used to exercise and maintain their data tapes. We talked to everyone we could who used to work with half-inch open reel, and a lot of our first contact was with the folks at Video Ant Farm, with Chip Lord and Star Sutherland --basically, all the collectives around San Francisco during the seventies. After gathering that information, we felt it was something we could do, and we had to take a chance. So we started looking into it, asking around to different funders to see if they'd be interested.

What I'm going to talk about is not only our cleaning process, but how we came about deciding what cleaning process we would use. It was the first one we chose to use because it seemed like it would offer the most success for the most number of tapes. But at the same time, part of us would love to experiment with other processes. If you've visited the website, this will sound familiar. The first cleaning process for any tape, of course, is no cleaning. Any time you have an opportunity not to run a tape through a tape path and just transfer it that would be fantastic. But that's not really a choice we had with



half-inch open reel. Any time we would try and run a tape that hadn't been cleaned yet, either it would stick in the machine — and the machines are very hard to come by, and very hard to repair — or it would start playing and then basically, material off of the tape would start collecting on the heads; and eventually, all you would see is snow, you wouldn't see the image anymore. So for us, not cleaning the half-inch open reels didn't seem like a viable alternative.

I got a call one day from a fellow from Emerson University. Somehow, he'd gotten my name, and he was describing how he set up a reel in his bathtub and was running it through some solution, and that's how he was cleaning his tapes. He said he'd had some success, but he couldn't really play the tapes back after one time. I heard about other people who were doing sort of a washing process. We didn't try that, just because it seemed a little risky. It sounds like there may have been some folks in New York who were using different washing processes, and it would be great to hear about those in more detail.

The other thing that we heard about from engineers at 3M and from engineers at Ampex, as well as from folks who were doing audio preservation, is the idea of baking tapes. When I talked to the folks at 3M and Ampex, their idea was they put it in an oven at, like, a hundred and twenty degrees, or some low temperature. I think Ampex would put it in for three days, and 3M would only put it in for eight or ten hours. Then they'd try transferring the tapes. They said that was pretty successful for them — except they also said that they couldn't play the tapes back again. They could only play them once. So we veered away from that idea.

The one we decided to go with was one documented in BAVC's magazine of the seventies and eighties called "Video Networks." We had a professor at San Francisco Art Instituted, Sharon Grace, contact a company called Recortec. Recortec created the data cleaning machines, and she had worked with them to modify a machine so it would work with half-inch open reel videotapes. She'd clean the tapes, and she had used the copies of those tapes for a presentation that she did at the Art Institute. With that idea, and because Recortec was so close, we contacted them and started doing tests with their organization, using this cleaning machine.

HONES: The machine has two reels, the source reel and the takeup reel. The first module that it goes through are these two little spools, like thread spools, expect what they have on them is like cleaning tape. Actually, I think there're four spools that the tape passes through. While the tape is passing through them, the two sides of the tape rub up against the cleaning tape. The dirt might collect there, but these spools actually continue to spin during the whole process. And so essentially, the tape is always touching against a clean piece of cleaning tape.

Next there's a burnishing sapphire — a lot of times they call it a sapphire blade — that the tape passes over and burnishes. What I think is the coolest part of this system is there's this big old chamber that the tape goes into, and it kind of hangs down as it's coming off of these reels. What's different about this cleaning machine versus a videotape machine is on a videotape machine, the takeup reel is dragging the tape over

the tape path. On this cleaning machine the reels are spinning independently — they're going the same speed. What this vacuum chamber does is it makes sure that, though there are some variations in the speed, the tape that bounces up and down in here and stays even. For the most part, there's very little tension in this tape path. It's funny; I saw this machine working for probably a year, year and a half, until I got a chance to actually clean on it. That's when I realized how cool this chamber was.

On the other side of the chamber are these slotted grids. I guess the best way to think about them is it's like an electric razor, and there's a vacuum behind it. And I know it's probably a little kinder to tapes than an electric razor would be, but similar to that. Then any debris that may come off in this area is basically sucked out by a vacuum that's behind those modules. I like that there's vacuuming going on through here; but I love that there's no tension. I like that these cleaning tapes are constantly moving, so the grit doesn't build up. We decided to go with the Recortec machine, because they were so handy to us; they were right down the street. I'd also read, in the NASA book, about BOW Industries doing cleaning machines, and at least one other person was documented. But Recortec was one of their preferred providers as well, so it seemed like a good bet.

When we first started working with them, Recortec was going through a business transition, and we were fortunate enough to have a couple of engineers from Recortec who did our cleaning for probably the first year or two. So we had some real experts working on those machines. When it came time for us to buy the machine, they also put

our staff through a lot of training so they would know how to use the equipment correctly.

JONATHAN SELSLEY: I'd like to say a couple things about the cleaning machine. I'm Jonathan Selsley; I'm the technician at BAVC that actually operates this machine. I sort of took it over from Luke. I want to point out that there really is, first off, no tension on the tape. But also, it's a non-invasive process. On the cleaning tape, it's just a slight offset; it's not really pushing on the tape at all. Right next to the right of the chamber, the speed is controlled by a fixed post. When you have on a feed reel a whole lot of tape, and on a takeup reel no tape, if the speed is relative to the takeup reel or the feed reel, you're going to have a different speed on each end. Like, when you're rewinding your VHS. The speed is actually sensed by a fixed post that has a fixed diameter. See, if the diameter on either side is smaller, or larger, you're going to have two different speeds. So we want to keep the tape at a constant speed as it passes through the cleaning tapes and as it passes over these vacuums here. So the speed is on a fixed post. There is one item that we removed, which is a box that kind of has a straight blade that goes down also, that acts as a scraper. We removed that, because we were finding a lot of edge damage, a lot of creases, wrinkles, tears, slices and these sorts of things that I really hate to remove during the cleaning process.

HONES: That is worth saying. When we first set up the system with the folks from Recortec, they had to take out a number of modules that would normally go on these systems. The data tapes were sitting in clean rooms and only trusted engineers touched them, but the half-inch open reel tapes are coming out of public access channels and out of a variety of places where they've been played over and over again, so sometimes there was edge damage. Some of the modules wouldn't allow for the amount of-essentially-usage that the videotapes had gone through. This is the process we started with, and this is the process we still use.

When we sit around and get misty-eyed, we talk about how it would be great to have test tapes and have the time to be able to try out baking some tapes to see what exactly that process is like—to see how we could refine that, or if that would play a role in some of the more difficult tapes we have to transfer. We haven't really had that opportunity. For that matter, this area of the video preservation we do, or the video restoration, we haven't been able to explore as much as we'd like. Probably about a year into working with this process, we started to talk with conservators. The person I talked to first was a fellow named Bob Tudenet, out in San Francisco. We said, "Well, what do we have to do to give ourselves as much comfort as possible with this process?" He went down this list of basically, Herculean tasks that we had to go through. We had to clean the tapes as many times as possible--until the tape failed--until we're comfortable with this process. We tried to do that and we tried to take the input that we could get from conservators because they're really the ones that will allow us to have comfort with the system that we're

using, and comfort with any system that we may try using in the future. So that is our cleaning system.

QUESTION: How many times before the tapes failed, did you—?

HONES: We cleaned the tapes twenty times. They hadn't failed at that point, and—how long does it take it to run a tape through there?

SELSLEY: Well, generally, we run tapes a minimum to two passes of cleaning. And one pass is sort of a forward and reverse process of cleaning; that's one pass.

QUESTION: How long does that take?

SELSLEY: It takes about ten to fifteen minutes per pass.

HONES: So we spent a lot of time doing those twenty passes, and at that point, we just kind of exhausted the process.

SELSLEY: Well, we do two passes, because sometimes the first pass will actually uncover mold. The white mold tends to basically dissipate when it goes through this process. What we're removing is really debris, or if the carbon backing's starting to break down--any sort of airborne volatiles. What we've seen is the first pass will remove this mold, and then the second pass will actually start removing debris. So if you're looking at the cleaning tape and saying, "Hey, this tape looks clean," because the cleaning tape, the tape path, everything looks clean, "Let's put it on a deck," but the [tape] will say, "Hey, no, no, no; we've got to do another pass." So really, a dirty tape--a really, really dirty tape—is about eight to ten passes of cleaning, if it takes that much time and that much effort to remove all of the debris. Something like twenty passes, if a tape goes that far, is really beyond what we're really comfortable transferring on our machine. However, our tests have shown on a tape that wasn't dirty to begin with, going through twenty passes of cleaning, we could still transfer.

HONES: At the time when we did that, we videotaped it, and we recorded the tape at the different passes — because we were going to a conference in Boston. And so I showed that at an AMIA conference, where we basically had a split screen of pass one, pass twenty; pass one, pass fifteen. And it seemed like a pretty noninvasive process.

QUESTION: What's the cost of the Recortec machine, and do they have a website?

HONES: We bought it secondhand, and I think it was fifteen hundred dollars when we bought it.

QUESTION: What year was that?

HONES: I'd say probably '95, '96. Is Recortec still in the business of making cleaning machines?

SELSLEY: No. It's interesting. They are still in business, and they're still in the same location, but Recortec has sort of changed. They've sold the company, sold the name. They've changed what they do, and they actually are more into custom sort of rack mounts and slide shelves and things for decks and keyboards. However, they do still have a lot of spare parts. They've said that they can sort of build a few more machines to spec.

COMMENT: As part of the website at ETC under Preservation Resources, we included a URL for BOW Industries, because they're still in the business.



COMMENT: There's a lot of information on the Experimental TV Center website under the Preservation area, specifically about Recortec and some other companies. Addresses and URLs are available.

SARAH STAUDERMAN: I actually did some testing of cleaning using some analytical tests that conservators use. I made a presentation about this at AIC, and also later on, at AMIA. One of the things that is certainly true about this cleaning technique is that it does not seem to alter the chemistry of the tape — which is really important. But one of the things that I've been debating in my own mind about cleaning techniques is the idea of using, instead of a baking system — to add to a list of possible cleaning or pre-preparation activities — is the idea of desiccation. By putting a reel-to-reel tape, into a very low humidity environment, you can create a microclimate, which essentially reduces the humidity in the space. It does the equivalent of baking, without adding heat. Or maybe even lowering the temperature and removing the moisture. The issue we're trying to get at here is the hydrolysis of the binder. If people were washing these materials, they were literally adding more moisture to a binder which is beginning to deteriorate — unless they were washing it with a solvent. But I can't imagine why anybody would wash a tape, if they were actually using water — or a surfactant, for that matter. But this idea of desiccation has not really been discussed anywhere, and hasn't been explored. And it would be probably the most passive way — especially with very vulnerable tapes, where

you were fearful of putting it on even this very delicate system — perhaps of reducing the hydrolysis, maybe for that one last chance of pass-through. So it's another area that needs to be looked at. The whole cleaning thing desperately needs to be addressed by research institutions somewhere in this country that can look at the tape surfaces before and after cleaning, and make a determination about not only the chemistry of the tape, but what does it look like when it gets played back? What difference does it make to the system? If it actually improves the output, if it actually permits that tape to live for a longer period of time because it's gone through this process — those are all really good reasons to proceed with cleaning.

HONES: I'd like to second that point. One of the things that we would love to have is someone who could have scientists work at it. As I say, in a sense, it felt like we went to the moon, but we're still the Wright brothers in our bicycle shop. We didn't have the advanced knowledge one would expect. We're a production house. And it would be great to have that input, not only to help BAVC with its processes, but to help, as you say, move along the whole issue. I'm curious, as far as the desiccation process, how long a process is that, would you say?

STAUDERMAN: I'd say three days.

QUESTION: I was going to say a lot of this type of information might be gathered more from the audio world because— partly because with the binders in audiotape there's much more variety and much inferior quality. A lot of this has been addressed, I think, earlier on by record companies and professionals in that field. When you get a bad tape, an audiotape can be really gummy. I'm just curious how gummy videotapes can get? Before you answer that, the desiccating oven concept is something we've used with audiotapes, using a convection oven with the door open, at a very low temperature — usually a multi-day process. That can take a lot of the gumminess out of a tape. But we've gotten some in that were almost like a mass of solid material. My impression is that videotape is just, in general, a higher quality tape, and less variation, than what you can find with audiotape.

SELSLEY: Quarter-inch was made by some real sketchy people, so... Something I'd like to say at the Bay Area Video Coalition, we're concentrating on videotape. We haven't necessarily gotten into preserving audiotape. But there are a couple of differences I'd like to point out. As you mentioned, there are a lot of proprietary blends of binders, and in videotape, there are still a lot of blends and things. We're actually finding different tapes that are holding up better or worse over a thirty or thirty-five year period. But I'd also like to step back and say that with our preservation process, we're cleaning the tape and remastering. We are not necessarily making it so that you bring in a thirty-five year old tape, we clean it, and you can store it for another thirty-five years; that's just not

where we're at. You know, we would like to see more research or something to that effect. But also, with audiotape, there are a lot of differences. I mean, you have sort of a fixed head, versus rotating head. There are different things that the tapes are going through. So we really have to sort of focus our time and energies with videotape at BAVC.

BILL ETRA: Have you looked at microscopic inspection of the tape, so that you have a standard for when you go to try to record from it? Have you used tape developer and the microscope and has anyone made a record of this, so it could be, conceivably in the future, image processed? Have you thought of putting a digital camera in the path of the tape to detect when it's roughly done? Or have you done any work along those lines? And the last thing I want to say is that there is a lot of desiccation information in, believe it or not, the cracker business, for packaging crackers. There are very well designed machines that Nabisco and other people have designed specifically for the problem of keeping crackers from looking wet.

HONES: I hear that more often than not, that the answer lies in food preparation and storage. As far as film goes, I recall they were talking about not freezers, but the coolers they have--

ETRA: That was the way CBS used to do this in the days of two-inch tape. They still edited some videotape with a razor blade, two-inch tape with a razor blade. This is no longer practical—and I would suggest nobody try it, it's highly illegal — there was a freon spigot next to every videotape machine at CBS, which both desiccates and chemically cleans and gets rid of the gunk. However, you're also poisoning the environment. But that's how they used to do it in the old days.

HONES: We stopped using freon in, like, 1990.

WEAVER: We don't do microscopic inspection at BAVC, no.

QUESTION: The problem, I would say, with microscopic studies is that the level of deterioration and the level of indications we're looking for actually requires extremely sophisticated equipment —like a scanning electron microscope or an Atomic Force microprobe — to get to the level of information we're trying to get. Because I think at the sort of microscope or just sub-microscope level, you're still not going to find what you're looking for, because we've looked at surfaces of tape using very sophisticated equipment and that wasn't strong enough; there was not enough amplification of the surface. It's not enough to demonstrate what we're trying to look for.

SELSLEY: Yeah, we've looked at tape under a microscope, but to be honest, we're really not prepared; we don't really know what we're looking for and looking at. Before we transfer a tape, it goes through this cleaning machine and the determination is made by the technician; the only chemical that's used in the process is denatured alcohol, to clean the tape path. So it's just really a visual instinct: Ok, everything has been removed through these various processes; the vacuum's clean, the wipe's clean, the posts are clean; let's go to the next step and try it on a transfer deck.

HONES: I think that's why a great outcome of this meeting would be how do we bring in the scientists? How do we bring in the people who are on a level above us to deal with those issues?

SELSLEY: I mean, it's actually kind of awkward being in a room, to be honest, with a lot of the sort of sixty and seventy-year old Ampex and Memorex folks. And I just—I ask tons and tons of questions: How do you do what it was that you did back then? And how can I do what I do now better? How they made tape, how they tested tape, how they determined whether a tape was good tape or bad tape. So that's really, I think, my personal challenge: getting as much information from these people as I can before they're all retired on some island somewhere.

COMMENT: There was a whole generation of Ampex tape that basically nobody in broadcast used, in two-inch or anything else. And this is as late as in the seventies— late sixties, early seventies. They made an entire generation of tape that Ampex said was basically bad, you couldn't broadcast on it, the two-inch tape wasn't made correctly.

SELSLEY: Well, there is over fifty tape formats that have been made, manufactured and sold, marketed since 1956. There's only a handful that really became any sort of standard. I can think of about a half a dozen. First one that comes to mind is the M2, a very beautiful, beautiful tape, wonderful. But the problems that they had with the M1, that Panasonic had with the M1, it just didn't take, and they said, "Hey, no, no, no, it's better. Look at this, this is much better." And it was. But it just didn't take on. The BetaCam SP is what took over from there. We can go ad nauseam about just all the different tape formats. To back up a bit, this cleaning machine is for the half-inch open reel. We have a RTF cleaning machine for the three-quarter, the U-matic, the three-quarter SP, and we also have a VHS cleaning machine. So really, we cover just a handful of formats that are out there.

DARA MEYERS-KINGSLEY: I'm from IMAP, and I have two questions. One is you mentioned that there are these different brands and formats of tape that seem to be

stronger, or more hardy, than others. Are you in some way recording and documenting those, so we could have some kind of report, if you will, to the field on the history of the strength of tape? I actually wanted to ask the three of you to speak about your own personal professional training that brought you to do the video preservation work that you're doing. Part of what the field is asking for and we're all here about is to develop scientists and engineers and technicians to further preservation efforts, both in the academic world, as well as in the conservation/academic world. I wonder, Jon, are you an engineer?

SELSLEY: No. No, I'm not. My background is in communications and Eastern European history, so I feel I'm uniquely qualified. My relationship with the Bay Area Video Coalition started about eight years ago, as just sort of being the handyman, pretty much. Since then, I've been taking engineering courses, and I also do systems integration. I consult--digital newsrooms to big servers--and just the whole transition from linear to nonlinear. I've worked at a whole laundry list of post houses (SGI, KGO, and Oracle). So my background is really connecting and documenting everything. I mean, as far as the tape formats that sort of have come to the forefront or fallen by the wayside. But we deal, or try to deal with the tapes that people bring to us. We can't transfer everything and we can't clean everything; we're really sort of handcuffed. You can't bring us a tape and we don't have a deck; you have to bring a deck, too. You can bring in a machine from 1956— or a tape from 1956, you've got to bring us the machine,



as well. Really, what we deal with is trying to figure out what was the dominant format at the time. There are so many formats out there now. But they were used for mainly news gathering, or this was a consumer format. It just really depends on how the companies were marketing these.

HEATHER WEAVER: Well, we're primarily a nonprofit arts organization, so we work with independent documentary and filmmakers. What we have the most experience with is what they're shooting on — which ranges from VHS, hi-8, mini-DV, BetaCam SP, all the way up to Digital BetaCam. And occasionally, we do have clients who have to bring in the odd M2 deck that we can use. I'm primarily a linear online editor. And my experience with format stability and how tapes hold up over time is just shuttling through hundreds of them as I've been putting together documentaries. I guess it's bad that the record we have about what we find is mostly in our heads, and not on paper. I have been collecting a nice gallery of dropouts. What a dropout looks [like] on hi-8 versus what it looks like on DV. And I would say that BetaCam SP does experience probably more dropout than DV, from what I've seen — although with DV, it hasn't been around as long, so it's not really a fair comparison. But in an online suite, where we're also doing the finishing, I find that dropouts on analog formats, they're easier to fix. When DV drops out, it usually alters three or four frames, and the dropouts are very big and chunky. On a BetaCam SP, or even a hi-8 — although hi-8 tends to have excessive dropout — it's just a little line, and it's pretty easy to cut and paste, if you will, to fix the image.

HONES: I just wanted to say something about Heather's background, as well, because she didn't mention it. Heather trained at the national PBS, with PBS engineers, to make sure that what was coming out of BAVC was meeting the specs before it got to PBS. Essentially, she edits the PBS programs that come out of BAVC — which, there are a lot of them. She's edited a lot of the programs that go onto film. And I certainly don't know all the details, but I'm certain you've done a number that have gone on to be at least Academy Award nominated, or maybe won an Academy Award.

WEAVER: Yeah, we do well in Sundance, when we get pieces in there.

HONES: Essentially what that means is she's in there working with the tools of the video trade. That's the waveform, the vectorscope. Those are probably the big ones.

WEAVER: Also the color corrector— I do a lot of that. A lot of image repair, as well, which is how I know what's harder to fix and what's easier to fix, and what lasts longer, I guess.

HONES: I think Jon's training has really been key to us because of his incredible ability of understanding how to put together good signal flow, and understanding, you know, what it looks like when equipment is working right together. Heather's experience is that she knows, with a great deal of experience working as a production editor, how to put a piece together and what a good image looks like, you know, once we have a system set up correctly. Essentially my video background was at BAVC, and learning at BAVC how to put together the sort of equipment that we have, and how to assemble that sort of facility. Before that, I was a computer programmer, and I built computers systems, as well, back in the mid-eighties. I'd say more my experience was making sure we put together a good team, and a good team that could do what we needed to accomplish. That being said, I certainly did some of the early transfers. Mostly, I worked on the test tapes to get a sense of what we could expect out of the half-inch open reel decks that we're working with, and what we could expect out of the cleaners that we're working with. I had a hundred tapes that were donated from Redwood High. So I saw a lot of bad theater!

KIM TOMCZAK: Hi, my name is Kim Tomczak, from V Tape. I have a number of questions. I understand that all tape manufacturers produce tape with an orange peel effect on it, so the tape bumps; it actually skips along the edge and doesn't touch so there's a certain kind of texture to them. In your experience, does the blade or the burnishing process remove any of that orange peel effect? That's the first question.

WEAVER: I would say not as far as we can tell. But again, we're not looking under a microscope.

HONES: I would say one other thing about the half-inch open reels. When I was first setting them up, I worked with a Sony engineer. What he was saying, the connection between the Sony half-inch open reel heads and the tape is a little more rough and ready than that. There's actually a lot of contact.

KIM TOMCZAK: The problem with baking and the desiccation concept to me is that it doesn't remove the dirt. There's also hair, skin, smoke, dirt on the tape. So I've often thought that that was a non-issue, because really, you're trying to get the stuff off the surface. That's a statement. I am trying to think when they remaster ancient films, you know, they actually go back and they aesthetically decide on the way they're going to look, based on what they think the filmmaker thought they should look like in 1920. Are you at a state now where you're going to take an Ant Farm tape and, you know, put it into a noncompressed digital editing system and recreate it the way you would think of Chip Lord...

WEAVER: Actually, Chip Lord's probably coming in to do that with us. But it'll be in the linear suite, actually. We don't digitize and compress.

HONES: It's a very good point. When you're talking to us, we're the technicians and, you know, we would have someone like the folks at Video Data Bank come in to put together a program from those tapes. The other issue that's got to be addressed with baking or with desiccating, if we're talking about three days or eight hours or whatever, versus half an hour. And part of the whole issue of dealing with the clients that we deal with is how do we keep the price down as low as possible? So I think when we think about baking or desiccating, if there were tapes that couldn't be transferred in the way that is most successful is there an alternative to go?

QUESTION: How much problem do you have with the actual tape degenerating? And how much of a problem is control track, a loss of control track? How much problem do you have with the tape not playing back, with timebase error that's not easily correctable? And how many tapes that you absolutely can't play have a problem with timebase or control track, and how many have a problem with disintegration of the actual record medium? Like what are the percentages?

HONES: As far as the timebase error, when we first started out, one of the TBCs I was looking at was from Prime Image. I thought it was a pretty good bet, because the guy who owns Prime Image has a long history working with TBCs. But we could not feed half-inch open reel through that TBC without the image freezing. Essentially, what we settled on for a full frame TBC was the DPS TBC IV, and it passes video through really well. The way that we have our system set up, we have an alternative. At the same time, we're passing it through a BVT-810, which is not a full frame TBC. For those things that are still causing problems in the full frame system, we can go through the BVT-810.

QUESTION: And that takes care of most of it? Or do you have any tapes that absolutely won't play back for control track reasons? What is that, relative to the percentage that won't play back from actual loss of record medium?

SELSLEY: We have three TBCs and we also have three play decks, so if we're having a problem on a tape, we'll go through all TBCs. We'll go through a process of verifying that our test tapes work, and try all the different play decks. It has been such a small loss because of those kinds of errors. The biggest thing why we can't transfer a tape is if a tape is at what we consider end of life — something that has gone through these twenty passes of cleaning, and it's just not coming clean....But some of the problems we've also had are actually if the tape was recorded on a deck that really wasn't up to par; it was in

poor shape to begin with. So that's a process where the tape is clean, the image that's on the tape is really fine, it's just it was recorded where maybe the heads were worn, where the heads were out of sync, out of alignment, or it had any number of a hundred and one things wrong in the deck. So actually, in certain circumstances, since we are lucky enough to have three play decks, three AV play decks and the one CV play deck, and also a nice gentleman that can tinker on the decks. He has actually modified our deck to reproduce the sort of horror recording that was done initially in the early seventies.

WEAVER: It's also moving the heads, because if the heads were out of alignment on the tape path when it was originally recorded, to get the head to misalign our aligned heads to get it to play a tape back.

COMMENT: That's also do-able. I mean, it would occur to me (but only if that's a major problem) that today you could build a deck fairly easily and inexpensively, where all of that is variable under computer control and re-memorable...

HONES: Yeah. I mean, I would love to do that. My only concern is would it be actually affordable? We were talking with someone about building a cleaning machine. And I think they were going to charge us thirty thousand? I don't remember the numbers, and

I'm glad I don't because it was a lot of money, just to build the cleaning machine. Now, if we had them in there actually making sure— I mean, if we're going to build a new machine, are we going to have a really nice tape path, and take into consideration some of the technologies that have come since these machines were first built? Are we going to make it a much nicer machine?

COMMENT: Well, if you do that, you have some problems. But if you just want controllability of all the elements that could have gone wrong in the original deck, it's not prohibitive. I guarantee it's not a prohibitive enterprise.

QUESTION: I was just wondering if I could ask a questions about the RTI machines, if anybody knows of any research or anything that's been done on cleaning tapes through those RTI machines? RTI, it's a company that makes machines that are really tape evaluators; but they also have some of the same components as the Recortec. They are used in a lot in libraries, for instance, to run the tapes through. They check for certain errors.

HONES: And the formats are U-matic, VHS, and probably Beta.



COMMENT: Yeah, they have a Beta. And one-inch.

COMMENT: There was a time when broadcast insisted that a tape be evaluated before they used it. So if you were at CBS in the seventies or sixties every tape that you put up would be an evaluated tape. You paid less for an unevaluated tape. There were machines that actually did that. Ampex, I think, built one; several companies built one. They built one for whatever format they brought out, because broadcasters would not use tapes that couldn't be evaluated, and therefore, you needed a standards machine to evaluate it.

HONES: And those broadcasters were reusing their tapes so much. I mean, definitely, the local news stations.

QUESTION: In the same vein of talking about RTI machines, has anyone thought about taking one of the half-inch RTI machines, with a cassette mechanism—an open-able cassette mechanism, to load half-inch open reel in, and use the RTI for that?

WEAVER: Yeah, but they don't make one specifically for half-inch open reel.

QUESTION: No, no, I'm saying to take a cassette—like a pre-loaded cassette that screws open?

WEAVER: That would be something that we would be definitely interested in partnering with them or trying. But right now, I don't believe that we have the resources at BAVC to do something like that.

QUESTION: With the Recortec, the hubs and the transport, the takeup reels, how did you have to modify those — or did you have to modify those — for videotape?

SELSLEY: Well, it was initially for a one-inch computer tape. Actually, the entire tape path, the posts, the vacuum, everything was modified per our requests to Recortec. So we just told them pretty much what we wanted.

HONES: Yeah. If you look at the machine, you can see essentially, the modules and everything are just screwed in, and they just built it to spec.

QUESTION: I'm going to go out on a limb here with regard to the RTI tape deck, especially the error evaluation. I have observed them a great deal, and I don't think that they are worth anything. I think it is bells and whistles. I think the people who rely on them to determine the condition of their tape are being misled. I don't think that it does anything. We looked at tapes that had been cleaned by the RTI tape check that had, you know, various amounts of bells and whistles coming off of them for, you know, very dirty, edge damage, blah-blah-blah. The tapes were fine when you look at them under these more sophisticated machines, such as FTIR. They don't have the damage. I don't know what those bells and whistles are doing. I think that the tape cleaning part is fine. And no one has ever been able to actually tell me what supposedly they're detecting, because they're not expensive machines--in comparison to what we're truly trying to determine about tape damage of the surface. Sometimes they have a blade that you want to take off because some of the RTI tape decks come with a blade you take off. But in essence, there is polyester, non-woven webbing that the tape runs up against, precisely as yours does in your record one-half inch cleaning material. And it does the thing.

SELSLEY: Just a couple quick things about the RTIs. We just purchased their VHS cleaner, and we didn't go with the evaluator. First, for money, and secondly, we were unsure. What are we really doing here? So we sort of did without it. And also, we're very happy to have that machine; however, it was three or four thousand dollars, and I'm not

going to take our VHS machine apart and try to adapt it for half-inch open reel. However, I'd certainly be happy to take somebody else's machine apart!

HONES: Then you have to put it back on the reel because of the tape path difference for the two machines. I did kind of think about that. I was looking to see how close the tape path was to half-inch open reel. It's very different. As I understand it, there's a process in tape duplication, where you run your master tape next to another tape, and magnetically, the signal is transferred. I was thinking: Boy, if you could do that with half-inch open reel, that would be the most interesting, if you were transferring it to brand new stock.

SELSLEY: Now, I'll basically go over how we have things set up at BAVC. This is an engineering program. It's a CAD program. But it also has a database of about thirteen thousand pieces of equipment that are commonly used — distribution amplifiers, timebase correctors, decks, monitors. And it's about seventy-five hundred dollars. And we really don't want to just suddenly, you know, make this information, like, you know, start giving it out. It's really, like, a twenty-four inch by thirty-inch piece of paper that three or four people can look around and say, "I'm having some problems with the signal; where is it?" And it really allows you to track down your signal and find exactly which cable is giving you the hard time. This is an AV-8650, and that is one play deck.

HONES: Let me ask you, Jon, in red are basically boxes, so over here is a VTR, here is a switcher?

SELSLEY: Yeah. This is a deck and this is a deck. This represents two AV-8650 half-inch open reel decks, like we have up front here, that are mounted in a rack, so we don't have to keep switching the cables around, we don't have to move the deck around; it's in the rack, in our control room, with all of our equipment. Here is the audio for one deck, here's the audio for another deck, and it goes into a switcher. What the switcher allows us to do is take one tape and switch back and forth between the decks without any recabling or repatching; all we do is just hit a button on the switcher. Then we have the output of the switcher you can really get down to the exact wire and say, "Ok, this is the one." If we're having a problem, we can troubleshoot. This is incredibly valuable for troubleshooting. There is a line conditioner, because the audio coming out of the play decks is unbalanced audio. Professional audio tends to be balanced. It's coming in unbalanced, and goes out balanced. Also, with the audio, we have this mixer we can bring in, and that's where we can really tweak the levels. You can mix it, bring up the levels, and bring down the levels. But we really make sure that our audio levels are just within basic broadcast specs and guidelines. We're not going to sit there and ride the levels through the tape; there are just too many questions and concerns about artist's intent and it's not really for us to decide. We basically clean the tape and get the best possible transfer that we can off that tape. In post, you can always go back and make

changes, or you can say, “Hey, can you retransfer this tape, riding the levels,” or... But really, our concern is getting the original master cleaned and transferred, and then essentially, that’s the end of our preservation.

And then there is an audio distribution amplifier, so we have coming out of the mixer, patch, into a distribution amplifier. It comes “normalised” out of the mixer, which basically means you don’t have to patch anything, but you can use any of these other patches to go straight into patch to the distribution amplifier. The important thing is that you can have one source and six destinations, all at the same time, so really what we’re doing is we have the one master, and we can remaster to up to six different formats with the same audio. So when we say we can go to three formats at a time or six formats at a time, or if you drop something off and you want two formats, it’s in the same pass. And then here’s an audio monitor so we can monitor the levels, Techtronix, and that’s normalised out of the sixth output of the distribution amplifier. Then coming out of the mixer we’ve got some speakers.

HONES: This represents essentially our attempt to try and set up a system that would strategically help us be as efficient as possible in working with half-inch open reel. And that means that we have three decks here. If a tape arrives, we don’t know if it’s going to work on this deck; these decks are essentially identical, they seem to play a little differently. We don’t know if that tape’s going to be skip field or if it’s going to be EIAJ half-inch open reel. So that was the key, is we have this switcher and essentially, we have

everything down the line. So we put it on this deck, play it, and everything else is patched, and so it's going to the record deck. If it doesn't work on that deck, we move it over, play it, and all we have to do is flip a button and it goes to all the places it was going from on this deck. It's a little different than most of the other installations that we've done, in that our key thing is we need to move from deck to deck to deck, with basically only pressing one or two buttons.

QUESTION: I'm curious to know why you're using 8650s. I mean, this is the question.

Why wouldn't you be using 3650s?

HONES: 8650s give us color. There are plenty of tapes that have part color, part black and white on it so we had no way of knowing, with tapes coming in, whether they were going to be color or black and white. Essentially, we had to go with color. It's not like we can just throw the black and white switch in the middle of a program.

SELSLEY: Well, we keep the color switch on until we've determined that it is a black and white tape. Because if it's a black and white tape and you leave the color switch on, sometimes you get false color from time to time.

WEAVER: Well, prior to the transfer, we do spot check the tape for several minutes at lots of different places, to get our video levels at that time, you'd know if there's color.

HONES: If it was half and half, would you keep the color up nowadays?

SELSLEY: No, I'd keep it black and white on the black and white part, and then color. And then, also, we'll get into the documentation, as well, later. But that also goes into documentation. That would be noted, so that that can be carried to future generations. So fifty years from now, you don't come back and say, "Why is this black and white? Make it color. Somebody please do something." No, it was black and white when it was recorded, and when it was transferred; and then the second part was color. We get that when there are edited pieces, which we actually see a lot in the education industry. People take something that was color and tape over it, tape their own program over it. So somebody had a program on it, it was color; they take it for their own use, and say the first twenty minutes of the tape is their own black and white footage; the last, say, twelve minutes on a thirty minute tape is color. I'm going to transfer everything, because that's everything that's on the tape. I don't worry about, you know: Ok, well, this is some TV show from twenty-five years ago. You're going to get everything that's on there, and I'm going to note that the first twenty minutes is black and white then it switches over to color.



HONES: Yeah, we've run into that, with part of it being EIAJ and part of it being skip field, as well.

SELSLEY: And also, on these 8650s here, which is actually about 99% of our half-inch open reel tapes are the 80 series. We do have three, but we keep two up and running. And then when one goes out to service, we sort of rotate it in. They never go out to service all at the same time. So there could very well be one deck that's literally fresh back from service — fresh alignment, fresh heads, it's got a new scanner and capacitors all over the place — and we'll start with that. Then we rotate through, and that's just really to match up the right tape with the right deck, because the tape might not have been recorded on a perfect deck to begin with. It might need something where the heads were a little worn, where it had a different signal-to-noise ratio, or it had the tape contact.

HONES: The other thing I wanted to mention about the signal flow is coming off of these decks —I think it's probably minus ten dB, as far as unbalanced audio goes. The matchbox corrects it to plus four, which is usually the input that you essentially have on Beta SP.

SELSLEY: That's automatically in the system; we also have our BVU-800 and VO-9850--three-quarter decks. They have audio, and time code is an audio signal... Those don't go through the switcher, because this audio's actually coming out balanced, and coming out two channels; whereas on the other decks, it's coming out one channel that we mix, and it's coming out unbalanced so what that does is it allows us to take the audio out, patch, and then actually go into this distribution amplifier, straight in out of the decks. Then once again, coming out of the distribution amplifier, we listen to it with our ears, and we monitor it. This Tectronix 760 audio monitor is a very sensitive piece of equipment that tells us: Is this within legal limits? In this industry, everybody's always told to think outside the box, and that's wonderful--that's how innovation comes up. Except at this point, it's where we really have to think inside the box, because you're going to be looking at it through a television, and we don't want audio levels bleeding into the video; you don't want to have things way out of whack.

Now let me bring up the video. Once again, we have the AV-8650 play decks, CV-2100, BVU-800, and the VO-9850; these are the three-quarter decks. This is video only. For the video of the half-inch decks, once again, we go to the switcher; we can carry the video of the three-quarter decks also to the switcher, because it doesn't have the same limitations or differences that the audio has--where the audio coming out of the decks is a different signal type. It's also one channel instead of two channels. This is the same kind of video that's coming off the half-inch open reel decks. We have the composite video out, and then there's also the monitor out, which carries the time code on the video signal.

Then we have our first TBC, the DPS ES-2200. It's normalled out from the switcher. So really nine out of ten times, our transfers go into this particular TBC. Luke goes into it in depth in his paper. Regarding the nature of how TBC handle an image: there are different proprietary cone filters, and various proc amps that are used. This is basically matching up the right tape with the right deck, then the right TBC, to get the best possible image.

HONES: A TBC is a timebase corrector. Very quickly, when a tape is going through a tape path there is a little bit of flutter, and what is created is what's called timebase error. A TBC was created so the video signal goes into the TBC, it's corrected and, the timebase errors that come from dealing with the real world, they go through and they are cleaned up and then sent out. It's essential to getting a signal--not only for preservation but for broadcast as well--from a deck to another deck. Most of the equipment nowadays--if you're buying broadcast equipment--has TBC built in, so a lot of times you don't see them. But with older equipment, we have external TBCs.

ROBIN SCHANZENBACH: Aren't you going through some sort of waveform and vectorscope, before you get to the timebase corrector?

WEAVER: It's after the TBC.

SCHANZENBACH: And my other question related to that, you had said you work within broadcast specs. Are you always assuming that there are bars and tone at the head of the tapes to do setup with?

WEAVER: I'm going over that in my presentation. But if there are bars and tone, we will use them. A lot of times on the half-inch open reel, there are not. We set to provide a good transfer without losing detail, highlight or shadow areas of an image.

HONES: That is why it's very important to have someone like Heather, who's had the level of training she has, to work with these tapes that don't come to us with standards to help us figure out how things work. She's able to work with the tapes and come as close as, I'd say, is humanly possible.

SELSLEY: In this process is a patch point. What we would do, our standard procedure, is to take bars and patch it in to this patch point. Then we'd set the TBC to bars, and then we'd also set the audio record levels to tone. Before we do a transfer, we'll spot check the first few minutes of a tape, and make sure that everything is within legal broadcast specs, using the Techtronix audio monitor. We have two TBCs, and our HR600. We have what's called a transcoder, because the signal that's coming out of the switcher is a

composite video signal, and if we're going to a machine that has component video, this is what we go to. Then there is a Techtronix 1765 waveform and vectorscope. The whole preservation process, it is very exciting--what we're doing, this whole transfer and recovering this media. First off, it's kind of a chore to match up the right deck and the right TBC, and it really is a monitor process throughout. My job is to monitor, using this waveform and vectorscope. What we're monitoring is what's coming off the tape, what's coming out of the TBC, and what's going in and out of all of the record decks. Then we're taking all that information through a waveform and vectorscope. The whole time, I'm bouncing back and forth with all the patches, monitoring all the various signals, to really ensure that what's coming off the tape and what's going to two or three or four record sources is within legal limits for your television, and it's also theoretically, the same image going to and from all the various play and record devices.

HONES: Essentially, the waveform vectorscope is serving the same purpose as the color monitor. It's looking at the video. The vectorscope allows you to look at the color signal, to see where the color signal is falling. The waveform, for the most part, I use for looking at the black and white part of the signal. Think of this in the same way that you think of the color monitor; it's helping you to look at what you're doing.

WEAVER: It's just another much more precise way. Because you can actually measure the voltage levels of the electronic signal, so you know exactly what you're getting.

SELSLEY: We have a transcoder that will take a composite into a component signal. Then we have an ADA, which can take an analog signal and transfer it and turn it into a digital signal, as well. We have this device if we want to go digital into DigiBeta or a DvCam, it's what does. Then we also have a Techtronix 601, which is a digital waveform. A digital signal is different from an analog signal, and it therefore has different measuring equipment--that's the quick and simple answer to months and months of talk! Also, there is a distribution amplifier we have, coming out of the switcher, is normalled to this timebase corrector. However, we can patch into any of the other two timebase correctors, and it's normalled into this distribution amplifier. We can patch anything into this, and it does the same thing as the audio distribution amplifier, which basically takes one signal in to six signals out and is normalled into a monitor.

Another important device is what's called a "feather". Every device that we have at Bay Area Video Coalition, the thirty decks that we have, the edit suites, every monitor, and every timebase corrector — everything we have shares the same reference. Heather will get into exactly how important it is, but please understand that this is incredibly important. What we have is our Grass Valley; it's a sync generator. From one source, one sync generator, we have the black reference signal coming out to distribution amplifiers. These distribution amplifiers take one in and six out, and distribute the same

black signal throughout the entire facility. I can't stress enough how important that is.

And then also, another thing about the Grass Valley is it has color bars here and the color bars hit here, which is patch. It also has tone, a one kilohertz sine wave, which is an audio test signal. It hits the distribution amplifiers that it hits. Everything is sharing the same reference signal. Our record decks, a BVW-75 Sony, that's a Beta SP; another BVW-74 Sony Beta SP; and another BVW-75, which is actually an Ampex CVR-70. Then we have a DigiBeta, a DvCam, and a DVD burner.

HONES: And what happens if it doesn't [share the same reference]?

SELSLEY: You get sync shifts. You'll have a big black line across your image. On the top of your screen, you'll have the bottom of the image; on the bottom of the screen, you'll have the top of the image. Essentially, reference is the heartbeat; it's the heartbeat that all of your equipment is listening to. What is going down the cable is just electrical impulses. It's not like film.

WEAVER: There was actually a good article on the Experimental Television Website that Sherry Hocking wrote about sync.

SELSLEY: This is an awful lot of information. But the important thing here is this is what ties everything together--how everything is connected. This gets down to the actual cables, so that if you're having a problem with anything, you can say, "Hey, this cable here, let's check it." At any point, you can check your sync. You can say, "Well, how do you know that you're sharing the same sync?" You can check it on a waveform and say, "Oh, well, that sync is off." So rather than rewire your whole facility, or freak out because you're having a sync shift or some sort of problem, you can test every single cable in this whole system.

HONES: As complex as it looks, it's what allows a facility to run. It keeps the downtime down, when you have this level of planning that has gone into place before cable is even laid. Drawings actually come to us before the system is set up, and we approve them.

QUESTION: Was your system designed primarily for postproduction, and modified for preservation? What is the relationship between these two things?

WEAVER: Preservation was added, so it was just more equipment in the racks. We did already have the infrastructure; we already had the patch bays.



HONES: The design for the preservation center is more than just the decks. A lot of thought went into. It was very new to me, and unusual to me, to think of putting a switcher before a DA. But we did that, because— unlike postproduction — we potentially needed to try a tape out on three machines. We needed to do it as efficiently as possible so we could worry about the stuff that the client would want us to worry about.

QUESTION: What percentage of time on this system is actually used for preservation?

SELSLEY: Really, that's about a fourth of the time, is actually transferring the tape. Somebody drops off a one hour reel, a large open reel--that's about three to four hours of handling by the time that it's cleaned and we've found the right deck and the right timebase corrector. Then there's also all the prepping of the record tapes (Heather will discuss test signals on the record tape) and getting everything ready, and any patching you need to do. Of course there's documentation for the whole process. The transfer is such a small part of the process. There is a technician there the whole time to make sure that nothing happens--no patches get pulled and nothing gets stuck. That's almost like the hairiest process, because you're monitoring what's coming off the tape, audio and video; what's coming out of the timebase correctors; what's going into the record decks; what's coming out of the record decks. Even though everything's in the same room in eight racks wide, you're running back and forth checking everything.

QUESTION: Would there be any difference in the system if you only did preservation--  
If that was your main task? Would the components and the things that you put together be  
different?

HONES: We'd have a smaller patch panel.

WEAVER: Yeah, we'd just have a smaller patch bay and a smaller physical room.  
Everything on there, I feel, is essential.

HONES: I was just listening to Jon's description, and it's true, a lot of that stuff gets  
used for postproduction. Pretty much most of what we have in that control room is a lot  
of video DAs and audio DAs to pass signals, and they're being used for video  
preservation.

QUESTION: I'm interested in knowing what people can do on a smaller scale that will  
still be effective.

WEAVER: Well, I guess it depends on what format you want to transfer to, because if you're not going to transfer to Digital BetaCam, you don't need the box that changes an analog signal into something digital. It really depends on what formats you're going to go to. I would still highly recommend a patch bay, timebase correctors, and the scopes are essential.

HONES: For preservation, we need three TBCs, where normally you'd need one.

SELSLEY: A lot of play decks have an internal TBC. If somebody brings in a BetaCam, Beta SP tape to you or to your facility, your deck will most likely have a timebase corrector in it.

WEAVER: But that only works on the output of the deck, not the input.

HONES: The other real value of this sort of setup and this big control room is that we run one signal; it could go to six decks, if you have six decks to record to. And so it's one pass, and you have your VHS copy, your Beta SP, or whatever you're transferring to.

WEAVER: So you might not need as big a DA, distribution amplifier.

HONES: You won't have to run it as many times, so in that way, there becomes a lot of efficiency in that size a system.

QUESTION: Are you planning to add non-compressed digital video as a recording stage?

WEAVER: Well, Avid's not really non-compressed.

SELSLEY: Even putting it through a timebase corrector does digitally alter the image, so you are digitally altering the original analog image to a digital type of image.

WEAVER: We can go to an Avid right now. We can go to a Smoke, or an Octane SGI right now. That's not how someone would walk away with it yet, at this time, but for postproduction we can do that. If you transfer to Beta SP or Digital BetaCam, we can edit in the linear suite, as well.

QUESTION: I'd be surprised if you've got a D-1 machine, which would be the digital uncompressed, really the best quality.

WEAVER: We're not really looking at that right now.

SELSLEY: It's time and it's space. Our relationship with people that come in with their collections-- it really is a long relationship. People will come in and it will be a year or two, three, five years. "What do I have? What do I do with it? Does it need transfer? What do I transfer it to?" Uncompressed digital tape format is very, very expensive for us, and to say, "Ok, now by the way, we've got to get a hundred dollars for just for the tape stock on this one tape." Like our Digital BetaCam decks, we have them because we use them for postproduction. Our cost is fifty to seventy dollars just for the tape, and when somebody has a hundred tapes. I mean, we are nonprofit, but we're not free.

HONES: It's pretty expensive, even Beta SP stock.

WEAVER: Yeah, it's thirty-eight dollars, about, for a one hour tape. It's still a cost.

STEINA VASULKA: I am very sympathetic with everything you're doing, and I've tried the same thing. I have also several timebase correctors and CV tapes and AV tapes, and I've found a shortcut for me. But then I'm lucky because I lived in New York State for ten years, then I moved to Santa Fe. I'm realizing from the discussion here now, I moved into the baking oven, so my tapes are in a good shape. First I clean them. This is, again, something we haven't talked about here much--stock. The CV tapes almost don't need any cleaning, because there is no black coated Sony. It didn't exist then, they hadn't started manufacturing it, and so all those tapes are in a better shape. I just use a tape recorder to go back and forth. Then I take them just directly and play them into a DvCam — no timebase correctors, nothing. You look at your scope and you can't believe it--it just looks so bad. It's just wobbling this way, it's wobbling that way— your picture, as well as your signal— as you see it. What comes out of the DvCam has added burst, color burst to everything. You don't have to worry about black and white additional information. It is, for me, an incredible shortcut. And it works. I don't think it would work for the worst case scenario that they get, but I find that we are going into such an over-engineering in this discussion of the worst scenario tapes. Some tapes are in a very good shape. They have been sitting in baking ovens, in boxes. You take them out, you do a little cleaning, and you just transfer them straight to digital. And I'm very happy with the result. I find there is no deterioration, because first of all, reel to reel wasn't such a high definition to begin with, so it is never really going down. So relax a little bit, some of you. It isn't all that horrible.

SELSLEY: I'd like to add that we at BAVC do sort of anticipate worst case scenarios, so I think that's already built into our process. There are many things that we anticipate, like different formats to transfer to and what formats come in the door. We're always trying to work with people for that. But with individual collectors and collections, you may have a pile of tapes that were recorded on the same deck, maybe over a short period of time, and stored in the same way. You're going to have a much different scenario than what we deal with. I guess you can simplify the process. We would discuss with you folks what you are trying to do, and where you want to be in ten or thirty years. What do you want to do with your material, if you're setting up a facility to remaster your tapes?

WEAVER: One collection versus setting up another preservation remastering center, where you can have tapes from all over being sent to you.

HONES: I know, having dealt with a lot of insurance salesmen, how for health insurance and they start telling you how terrible it is be without life insurance. They go down the list and they paint these horrible pictures. I think what Jon is saying is right. Really, where we're coming from is we've always tried to anticipate whatever may be coming down. But in no way do we want to suggest that it's scary or horrifying. Jon also said, and we all agree, that we have a wonderful time not only working with the tapes and

seeing what comes out, but also working with the clients. It can be a really wonderful experience.

WEAVER: After a tape is cleaned, that tape is mounted onto a playback machine, and we transfer the video image to the format of the client's choice. I'm going to explain the process that we use at BAVC to transfer the tapes. When we're mastering a videotape or making dubs, it is important to route the video signal through a device called the time base corrector. The time base corrector stabilizes the video image going through it by replacing the synced signal of the tape with a cleaner house reference signal. Most modern machines have built in time base correctors, but the half-inch open reel machine and three-quarter inch machine do not. This makes having an external TBC a necessity. At BAVC, we have three external stand-alone TBCs. Because TBCs can sometimes add unwanted artifacts to an image, we use the TBC that provides the cleanest transfer. A TBC will also usually include a processing amplifier, or proc amp, which allows the user to adjust the video signals going through it. We can adjust the video level or the brightness; the setup or the black level; chroma, how much color's in an image; and hue, what color makes up the image.

Because the video signal can be altered in so many ways, we want to make sure that the video system is just stabilizing the signal and not actually altering it. We also want to make sure that the signal we are creating is within standard specifications for a video signal, so videotape machines will be able to properly play the signal back and display it.



Some equipment is less tolerant to signals that fall above a hundred IRE and below 7.5 IRE on a vectorscope. Video travels as an electronic signal, and the components of this signal can be measured with special oscilloscopes called the waveform monitor and the vectorscope.

It's important to note that the scopes do not alter the image in any way, or alter the signal in any way. They just monitor the signal. If you move the knobs on the scopes the image is not affected. Only the TBC alters the image on demand. The video goes from 7.5 to one 100 IRE, which stands for Institute of Radio Engineers, and it corresponds to millivolts. What we see on the scope is every single line of video that makes up the image. Darker areas are out on your 7.5 IRE, and the brighter areas are near a 100 IRE. One field of the video frame is on the left, the other is on the right. In the center is the horizontal blanking information; that's the area of the video signal that holds the synchronizing pulses, which tells an electron gun when to stop drawing one line of video and to go back and begin drawing the next. On the waveform, you can see color burst, depending on the way the waveform monitor is set up.

The vectorscope only describes the color information. The phase, or angle of the signal, tells us what color something is. The amplitude, or how far from the center the signal reaches, tells us how much color there is.

What we see on the normal test pattern are the pluge bars. When you raise it, there are three bars on the color bar pattern. You use the setup on the TBC to adjust it, so that the middle bar falls at 7.5 IRE. Then on your TBC, when you're adjusting your video level or

your brightness, you use the white bar at the bottom of the screen, and you use the video level knob to set that. To set the hue and saturation, we use the vectorscope, that's set up to easily read the colorbar test pattern. Each bar of color corresponds to a box on the scope. The scopes are labeled: yellow, cyan, green, magenta. We adjust our chrominance, giving us how much color, so that the little dots line up in the correct box. Then, as far as hue, we use our phase knob to adjust it so the colors align properly.

So now we know that our TBC is set properly, we go ahead and look at the video signal. We play the tape in various places for a few minutes and monitor it, both in monitors and scopes, to ensure that the video signal is within the limits that machines can tolerate without losing detail in the shadow or highlights area. When you have detail under 7.5 IRE, you lose that detail. So when we do a transfer, when we watch the tape, we make sure that we don't have dark areas below 7.5 IRE — otherwise, they'll be gone and won't be in your remastered tape. The same thing with the brightness levels--when we have brightness over 100, we're losing detail in the highlight areas of the image. So we have to bring the levels down to make sure that it stays below 100 IRE. Occasionally with moving video, you get peaks above 100 and below 7.5 IRE. That's ok. The occasional peaks, while they're not ok for broadcast, most modern equipment will tolerate it. If you have black that's too far, the black can interfere with that synchronizing signal, which tells the electron beam when to start drawing on your monitor. What will happen is you'll get an image disturbance or an error, because it can't read the sync. The other thing is if you have white levels over 100 IRE, in a broadcast situation, it can interfere with the audio levels. And some machines are unable to accept such a high level, and you'll lose

the detail that you once had. So at BAVC, we don't sit and adjust the TBC levels as the transfer goes. We simply look at the tape and pick one best light, basically best TBC setting, to do the whole transfer. That way, the integrity of the original scene to scene relationship remains intact. If you have something that's going bright, dark, bright, dark, you can't really sit there and manually adjust, because once you see it, it's too late. So rather than risking altering the original image, we go ahead and just use one setting.

SELSLEY: We make a note of it as part of the documentation.

WEAVER: While the tape is being transferred, a preservation technician sits with the deck the entire time, within arms reach of the deck, and monitors the entire transfer process. It's a labor-intensive, time consuming process, because it's not like the technician can just put the tape on there and walk away; just in case it's still sticking, or in case something happens, like we have a power outage. You don't want anything bad to happen to your tape. So while the technician is sitting there, they're using this form that we call the preservation dub watch form. (Note: This form is posted on the Experimental Television Center's Video History Site, in the Preservation area. See *Reel to Real*.) The form has a little column where you can jot down a time code number. And then you would jot down if you notice any drastic changes in the video signal. It's unrealistic for a technician to be able to note every dropout or every flaw, but the technician will write

down if there's a drastic audio or video change, or if there's excessive dropout, or if there's tape damage. So the new transfers are then spot-checked in at least three spots to make sure that we did a proper transfer. After that, we label the tape and send it to billing and that's about it.

QUESTION: Do you do any kind of documentation during the cleaning aspect of it also?

We didn't seem to talk about that.

WEAVER: We do, and on the form there is also a space to say how many passes we had to run it through.

QUESTION: Do you get feedback from your clients on the dub watch form? Do you send the tape back to your client with the dub watch form?

WEAVER: I know we send it when it's requested.

SELSLEY: We take the notes that Jon makes on it and put it into a template and send it off if it's requested. But it's always kept on record, so that if a client...

QUESTION: Would you have an example of a time when the documentation form was useful for questions for a client?

WEAVER: Yeah, it's very useful. Because if a client doesn't understand why their transfer went the way it did, we can go back and refer to it and refresh our memories. Not all of our clients understand dropout and skew and sync problems, so it's helpful for us to be able to communicate better with clients.

SELSLEY: The dub watch form does several things. If audio or video levels go way up or way down during a transfer, it really allows the client in post to correct it. The last thing that we want to hear is that our equipment is screwy. Basically, we want to assure ourselves, and also assure the client, that we've done everything that we can to get the best possible image off the tape as it exists--picking the right deck to play the tape, and picking the right time base corrector. Still, we will have tapes, like edited pieces, that just have problems. Or if the tape has a lot of dropout. It's really a note for the client. Then also, if the tape has problems, we can always go back at the end. When the tape's recorded, maybe halfway through the tape it looks like the head's clogged, but our heads are fine-- that's a very, very important note. At the end of the transfer I'll immediately put a test tape on. If the test tape plays fine, then that's a very important notation. Then

we can say that yes, without a doubt, that problem is on the tape. We can also go to the same spot on the master and put it on a different deck. That's really what the documentation process is all about, did we get the best possible image? We want to give you information that's helpful, not only if you want to edit, but also, in twenty, thirty, forty, a hundred years down the road— my name goes on the tape, and I don't want somebody cursing it! A hundred years from now, "This guy Selsley, what was he thinking here?" We want to assure, in every way that we can, that we've done everything that we could, and that's really what the dub watch is all about.

HONES: A good early anecdote that led to the dub watch form, and also really was a great client interaction, was I was working with the Minnesota Historical Society. We sent back a tape, a new copy to them, and they said, "Well, what's this going on?" When you looked at the tape, there was this moiré effect, essentially. I'm looking at it like this, saying, "Well, what is that?" As we're standing there, this one guy who worked for them said, "This is a tape that was shot off a TV." You know, that was an example of an artifact that we had to sort through, and it actually helped sorting through it with the client, as well.

WEAVER: As far as the labeling goes, the other thing we do when tapes come in — because we don't have much room here — we look at the tape and we'll assign it a

number, like “one of twenty, two of twenty, three of twenty,” just to make sure we don’t lose any tapes. We make an Excel spread sheet, and we’ll note what the label is, the label information on the reel and the label information on the outside of the case, and then any other notes, like, “Case was ripped,” or “The reel was damaged.” Those notes are mainly for us, just to make sure that we don’t misplace cases or do anything horrible like that.

SELSLEY: Regarding the preservation process, I have to stress that if a collection comes in — if it’s one tape, if it’s twenty tapes, if it’s a hundred tapes — we handle one tape at a time. That’s through the entire process of cleaning and transferring. This is because as tapes come in, there are just so many times the case doesn’t match what’s on the reel. Or what it says is on the case and on the reel, is not what is on the reel. So we document as much information as we can, just to make sure that we have the same tape and the same case. Part of the documentation is also, if it’s totally off— like, it says this is show A and this is piece B, but it’s something entirely different, I’ll say, “Hey, this is absolutely not what it says.” Because yet again, I don’t want somebody coming back a hundred years from now to whomever replaces us, and says, “Hey, you know, these clowns at BAVC lost our tapes, or got them all mixed up.” That’s part of the process, but it’s important to stress it is one tape at a time through the entire cleaning and transferring.

WEAVER: What I wanted to do was stress the importance of a processing amplifier, a TBC, and a scope when you do the transfer, because if you do have detail under 7.5 or above 100, some systems just clip that information right off. If you don't have that information when you do your original remaster, it's gone forever--unless you go back to the half-inch open reel.

QUESTION: On your preservation dubs, the remastered tapes, do you routinely, or on a standard basis, do you put colorbars and tone? And what is it that you do?

WEAVER: Yes. We set it up how we set up every other postproduction tape. We have time code starting at 58 — 58:00:00. It's generally nondropframe. From 58 to 58:30, you have black. 58:30 to 59:30 you have SMPTE bars. And you have to be careful with bars, too, because there are 75% bars, 100% bars, and SMPTE. SMPTE's the best, because you have the pluge, so it helps a lot. Those go from 58:30 to 59:30. And then from 59:30 to 01:00:00:00, hour one, you have black again. Sometimes a client requests information slates. And if that's the case, we leave six to eight seconds, depending on if we have to put one slate or two, or how much information it is, at the head. Then we assemble edit the transfer. All the tapes are prepped prior to the transfer.



HONES: Just a real quick thing about colorbars with pluge, the SMPTE bars. What that is most useful for is adjusting color monitors. Speaking for myself, I would tend to trust waveforms and vectorscopes before I'd ever trust color monitors. You can set up color monitors so they can be relatively useful, and the way to do that is with this pluge — what Heather's calling SMPTE bars. Essentially, it has a black that's darker than official video black, which is 7.5 IRE so you can adjust the monitor and see SMPTE black. You can see the black that's just a little hotter than SMPTE.

WEAVER: You can see the 11.5 IRE pluge. The 7.5 is the one right at black, but then there's one at 3.5 IRE. The 3.5 and 7.5 will just look like its own little box, and then you'll just see this little rectangle of the 11.5 IRE. When I'm in the online suite working with clients, color's very important... it's so the way an artist intended something to look can be carried through when it's projected somewhere else.

HONES: And because we didn't set up the projector using SMPTE bars—it was a little darker than we than we would prefer it.

WEAVER: No, we did not. It was much darker.

QUESTION: And your audio tones?

WEAVER: At the one kilohertz sin wave.

QUESTION: Is that during bars?... Thirty seconds?

WEAVER: No, from 58:30 to 59:30, so one minute.

SELSLEY: With the bars.

WEAVER: With bars. It's bars and tone; it usually goes together.

QUESTION: Do you do channel one and channel two separately, or do you do them together?

WEAVER: We generally do them together on the half-inch open reel and three-quarter transfers, because that's helpful when you want to mix the audio after the fact and it's stereo. But usually, that's not an issue with those.

QUESTION: I understand what you're talking about, and it's certainly appropriate for 90% of what you're talking about. But if it's an experimental work, where the limits have been pushed all over the place, how do you handle that and keep the intent of that intact?

WEAVER: Well, one thing we do is we look at the tape coming directly off the half-inch open reel machine. It goes up to a patch bay, so we can patch straight out of the half-inch open reel into our monitor. We can also look at the output of our TBC into a monitor. So not only do we have scopes, but we can match our eyes, we can use our eyes to help that. But if you have something that's really pushing those limits, it's not going to play back on a monitor. It's going to upset the sync. Or you just lose everything that's there. Modern equipment is not set up to be able to handle stuff like that. So if it's going above 100 IRE, us bringing it down really doesn't affect the overall intent.

SELSLEY: Some of you might be aware of the amount of video art that was going on, when it became affordable, with the Portapac in the late 1960s--when suddenly, people

that didn't have access to video suddenly had access. The first thing you would do is just take the camera and shoot it into the monitor and start doing weird things; it's just the early sort of graphics that people were doing. We get tapes like that from time to time. So I think your question's more like how would we handle that? We see what's coming off the deck, we see what's coming through the TBC, we refer back to our test tapes to verify that our equipment's in good working order, and then we just make sure that the audio and video are within the acceptable levels. William Wegman, before he struck it with the gray dog, he used to do experimental things, like with noise. Those are sort of particularly difficult to handle. For instance, he would be in a room such as this, and take a bookcase, knock it down, pick it up, knock it down, and have this reverberating room noise. So how do you handle that? And how do you handle when he's taking a broom and sort of sweeping the microphone around the room? Then all the various feedback that people were experimenting with in video. It's an interesting question, but I guess my point is we trust our equipment, and make no judgment on the content of the tape. Once again, making sure that our equipment — our time base correctors, and our play decks, and our monitors, and waveform/vectorscope — are all calibrated properly. Then we also refer to the test tapes, and trust the waveform to tell us where the levels are.

COMMENT: I guess what I was getting at is that you also have to do some detective work sometimes. Often it's the producer or whoever, the curator who's bringing that in, or even the person who created the tape has that kind of chain of understanding.

QUESTION: How often do you have artists bringing in tapes?

SELSLEY: Occasionally. An interesting one was a few months ago, where we actually transferred a few tapes. An artist sent a modest amount of tapes just to see: Ok, I'm going to send you five tapes of this large collection. He received them back and said, "You know what? I remember them being a little sharper." It's sort of is interesting, "Ok, sir... We've been doing it for thirty years..." I mean, you know? "What do you remember?"

WEAVER: The other thing that's really difficult with that is with every monitor. If I gave everybody a VHS tape to take home, you'd all have a very different experience of what something looks like, unless everyone sets to bars and tone every day--which I doubt.

COMMENT: We want to just kind of recap. Again, our mission here is to come out of this with some very concrete things that we could do, or need to be done, in terms of this work. I was taking notes, and others probably have notes about some of the things that were mentioned, in terms of possible work. I have: Testing of baking, as a method of preparing tapes; Testing of the failure of a tape — when does a tape fail on the cleaning

system? Creation of a microclimate with a Desiccant, and possibly documenting points in the tape path through some kind of photographic process; Getting information out of Heather and Jon's heads; Replacing motors on VTRs; Loading half-inch open reels into cassettes; modifying the RTI; and clarifying or exploring the relationship between postproduction facilities and preservation facilities. Are there other things generated out of this discussion that people think we need to look forward — specifically around the cleaning and remastering section?

CAROLE LAZIO: I wanted to repeat Sarah's observation that we should talk about how to engage scientists in doing research in this area.

LINDA TADIC: I don't know if anybody's already mentioned this, but the Image Permanence Institute, which did all the research on vinegar syndrome for acetate degradation, and also developed the acid detection strips, they're beginning work now on something for video, for magnetic media, from what I understand. Or they're creating a device like an acid detection strip that will be able to detect when hydrolysis is starting to affect binder in video that would be great if they can develop it. It's a multi-year project that they're just beginning to work on right now... So you can test so if you have, you know, a huge room of videotapes, you don't have to pull it out to test if it's starting to deteriorate.

KATE HORSFIELD: All of us who are sitting up here right now have been asked to address the economic issues of preservation. There was only a one-line sentence, so I'm sure this is going to be a very broad range of takes on this topic. It is of course, a central topic. I'm going to briefly describe the Video Data Bank, and talk about what our collection is like--the scale of it and what formats we have. This is to give you a picture, actually a profile, of one organization and the problems we're dealing with in terms of preservation.

The Video Data Bank was started by a man named Phil Morton. It was started as an adjunct collection to the video department at the School of the Art Institute in 1972, so early on it began as a collection. The first focus of the collection was to keep a record of student produced works that were coming out of the video department, and a record of the visiting speakers who came through the school. The collection started on three-quarter inch--it never actually started on half-inch open reel. When I came on the premises in 1976, it was a collection of about one hundred tapes, mostly internal, and exclusively for internal use; 90% of it was student work and the other 10% were people like Anais Nin and people who'd been invited to the school to speak. When my partner Lynn Blumenthal and I were hired in 1976, it had been moved from the video department to the library of the school, because the dean had recognized the importance of the collection. The video department was sort of allowing students to work over titles and a lot of things were getting lost. Some incredibly important documents did get lost. A four hour presentation by Anais Nin is gone; the first recorded trip of Joseph Beuys to

Chicago in 1973 or 1974, where he gave a six hour lecture. They were diligent about recording things, but they were very poor about understanding the importance of what had actually been recorded.

Twenty-six or twenty-eight years later, we now have a collection of roughly five thousand tapes in all formats, going all the way back from half-inch open reel up to mini DV, which seems to be the prevailing format of use by artists these days. So it's grown; it is a huge collection. There are days when I walk in there in the morning and think: I can't take another second of this! What has happened is we started out with very good intentions about production, and now that ratio has shifted dramatically; it literally shifts by the day, by the week. I'd have to say that, while we're mostly known as a distributor, the value shift in the required tasks really means that in order to stay in distribution, we have to concentrate on preservation. When we first started our preservation program, it came because we had inherited about 50% of the original collection of Castelli-Sonnabend Gallery, the first assembled collection that I know of in New York City in the early seventies. They went out of business with video, for all of the obvious reasons; you could list them on two hands. It wasn't making any money; it was too much work; all the tapes needed an immense amount of cataloging and maintenance. None of this was being done properly and finally they became overwhelmed and said, "We're out of here." So Electronic Arts got part of the collection and we got the other part of the collection. In a way this was the beginning of our preservation program because these tapes were on half-inch open reel.



Simultaneously, my partner Lynn and I had started on a project which was recording interviews with artists in 1974. We started with people who'd never been recorded on video before, like Lee Krasner, Agnes Martin, Joseph Beuys, and so we have an incredible collection of interviews with artists, that numbers about 375. It is an ongoing collection and we do it routinely; we make anywhere from fifteen to twenty tapes a year. So that collection is also incredibly important and needs enormous amounts of preservation. In that case, we have the source tapes (sometimes that can be four to one), and we have an aging collection of master edits on three-quarter inch. I won't go into details, but I'll try to give an overview of what I think we're all up against.

At this point in time, we have managed to archive 175 titles. In 1997, we had Allen Lewis from the Library of Congress come out and make recommendations for us about how to handle our collection, and how to make a professional archival collection. From his report we have been very diligent about making archival sets. We make one BetaCam SP preservation master; we make what we call a safety; we have a one pass VHS that is made simultaneously. That is one archival set, and actually some of these sets are stored off the premises. We are very proud that we have managed to archive 175 titles, and they are all in really good shape. We still have 700 half-inch open reel tapes, partly because of my enthusiasm over acquiring the entire collection of the Video Freex. This was work, made from the late sixties through about 1973 or 1974, that represents about 600 tapes that we're in the process of archiving but do not have the money to restore.

Because we started too early, we have 1600 three-quarter inch tapes and as everybody knows, three-quarter inch was a workhorse format but is now obsolete. We have 65 one-

inch tapes that were the first results of our preservation process in the eighties. One-inch is now obsolete. When you add this all up, at the moment we are sitting on 2,365 tapes that need some form of preservation. We're just talking about transferring or migrating from one format to BetaCam SP. We've always worked with BAVC, who have what I consider reasonable prices. Kacey told me that it was about one fifty per one hour title; I estimated in my calculations that it was roughly two hundred, because something always seems to come up. It is interesting if you calculate this out. We have 2,365 titles and if we spent two hundred dollars per title that would cost 473,000 dollars to archive all the work. This, of course, is impossible.

When you look at our overall project budget, we dedicated roughly 5% of our earned income towards preservation, which is about three or four thousand dollars per year. This is ongoing preservation; it has nothing to do with funded projects, which is another category altogether. So at best, if nothing else is happening, if we're not getting money from the National Endowment from the Arts or some other source, we proceed with archiving fifteen titles a year at a rough cost of between three and four thousand dollars. If we operate at fifteen titles per year, to get through our incredible list of 2,365 titles, is going to take 157 years for us to get our collection archived! I'm only saying that because it is really funny, but when I walk into my office every morning, it's not funny to me. I think for all of us old timers who've been around forever, we want to go into the woods feeling that we've accomplished something. On the other hand, every day it gets more and more complex. The multi-formats — we don't really know how long BetaCam SP is going to be considered to be the preservation format. Then we have this whole slew of

new problems with high-8, video 8 and DV. There are days when I just want to get into my car and drive west and forget the whole thing—it is too much. But of course, I'm not really going to do that. But I wanted to point that out to you because if you add up the numbers of all the collections of all that we represent here in this world, it's really an amazing story. It is an incredible public record. From the experiments that Woody and Steina were doing, to the work that the VideoFreex were doing, between those two polarities we have an incredible view of the world that does not exist anywhere except on videotape. A lot of it still exists on half-inch open reel.

When Mona and I were sitting around talking, I said, "If you tell me where I could get one of those machines that BAVC has, I will try to do what I think all of us have always tried to do, which is to do self-empowerment." In other words, I can not sit around and wait for the grant money to roll in. Being an organization that exists partially off public and foundation funding, I can't say every single year, "We're going to go for preservation money." I have to shift back and forth between general operations: I have to worry about our streaming server and keeping up with the advancements in the field, and I also have a preservation program. Every year it is a tremendously hard task to decide what kind of grants we're actually going to write, and what we think we can accomplish. With the decrease in funding in the United States that first started in 1994 and now seems to continue in an even more rapid vein, post 9/11, you know, all of this gets to be relatively scary. I can't say, "I really am committed to the idea of preservation, and here's what we're going to do: every single grant for the next five years is going to be written for preservation." I have other concerns. We have to maintain a balancing act in the center of

the whole thing, and that slows us down enormously. I think the solution is self-empowerment, to some degree or another. That's where this whole thing with Mona came up about, "How do I get one of those machines?" because if I could get that... One of the really good things about our location in Chicago is that I have an endless amount of fabulous graduate students. I hate to call them cheap labor, but they are cheap labor and a lot of them are very, very good. I can get somebody cleaning in the background for a relatively small amount of money, like eleven or twelve dollars an hour, which today is very cheap labor. It is in my interest to figure out how to do it. As much as I love BAVC, I don't have two hundred dollars to spend for title and that's just the reality of the situation.

So we've got these 700 tapes that need to be archived but also need to be catalogued. But I want to continue with the idea of empowerment, because somebody brought up the tape check machine. For at least seven years, Scott Jenke and I have had a conversation about every four months. I say to him, "You tell me where I could go on the web and find a used three-quarter inch tape check machine." He was never particularly forthcoming with this, but finally he said to me, "I'll set up a deal for you so that you can buy one with time payments." And I said, "We can't use time payments. We're at the Art Institute of Chicago, and they forbid this." So he said, "Alright, I'll figure out something internal." A year ago, we bought one and I agree that the evaluator is just a waste of money. In fact, we have internally set up a three-quarter inch remastering workstation in our office. It is primitive compared to BAVC, but the thing is I can keep it going. I can leave my office feeling like we're getting somewhere. I can see those tapes go through that machine —

and yes, they have to go through sometimes ten or fifteen times— but we're getting good results. There's somebody doing it on a relatively regular basis, which keeps my anxiety level down. (I don't know exactly how to handle the half-inch open reel.) In the meantime, we've taken it upon ourselves to set up this preservation workstation, and we can start on the 1600 three-quarter inch tapes we have in our collection. That makes me feel really good.

We also have been working with IMAP, with Jim Hubbard in particular, who was kind enough to come out last summer to help us coordinate our database with their database. We did something really interesting with that. I hired a woman who keyed all of the IMAP — what do you call them? — field descriptions. And she put a description in it so that if somebody on my staff doesn't understand what five-thirty is, they have a little pull-down menu. It keeps it uniform. Beyond the money of remastering, the next big thing is the communication and the cataloguing that needs to happen. All of us could talk about sub-masters or dub masters and language, stuff like that. This problem is also getting to be extremely important because of the generational shift. I look around this room and I see a lot of people I've seen around for fifteen years or so. Then I go in my office in Chicago, and 90% of the people who work in my office are in their early thirties, some in their twenties. We have this issue of how we are going to take this stuff out of our brains and get it into a database, and how we evaluate the quality of tapes. You know, I was telling Heather a story. I said, "You know, you should create like a CD that shows what a successful tape that's been remastered looks like." In my office I'd have to say

60% of my staff, if you lined them up in front of a seventies tape, they don't know what a glitch is, what streaks were inherently built into the making of the tape, what can be fixed, and what a good outcome is. They don't get it. I've had people mark on tape boxes, "Tape to check," you know, "Check the tape, the quality of the submaster." Then I look at it, and I'm like: Oh, no, this is awful, this has to be replaced immediately! We have an issue of people not knowing what a good seventies tape is, or what a good archival tape actually look like. I think between cataloguing and taking this stuff out of our heads and putting it into a central space, helping communicate to a younger generation what is good and what is not good about the preservation process are two things that hopefully, we can all talk about strategically, because it's happening very quickly. It's getting out of control! I don't know about you, but I'm intending to get in my car some time in the next couple of years and check out. Before I do that, I think that I have some things that I need to accomplish. I need to know that younger members of my staff — and hopefully, new members to our field — can be brought in and can be trained. That they will show as much dedication as we all have, and that this information can be communicated down, both in terms of quality and in terms of data that needs to be collected, and the importance of different kinds of data.

Those are the two things I wanted to talk about. I'm hoping somebody else here will talk about the curatorial process, in terms of preservation. For all of us who write grants, I'll admit this publicly (it's a terrible thing to admit!) but I know what it takes to get through a panel, having been on a million of them myself. If I want to get my most favorite obscure videotapes preserved, I know that the panel's not going to know who these

people actually are and I am going to have to mix it in with something that they actually know really well and that have some sympathy for. That is the reality, you know? The generational shift is one thing, but we also have a system of values that are connected to the preservation process. It's very important for me to work on the Video Freex work, because they documented all the major events of the late sixties — the Chicago Seven trial, Woodstock, the first women's lib march, things like this — which I think are historically incredibly important and should be passed on. When I wrote that grant, I was very careful to package it in the midst of some other things, because I thought a lot of people are going to think this is really radical, or there's going to be something in here that nobody really wants to look at. I'm hoping somebody else will talk about that at length, because I think that's also an issue. How do you convince people that you don't just stick with the ten big names? Why do we have to have a history of video that's limited institutionally? It should be broad, because the breadth, the reflection of the power of the Portapac and where it could go is in the breadth of the field--not just in the vertical integration of what has lasted or who has become famous. I think that the curatorial practice related to this, hopefully, is something that we can also address here, too. Now we will go to Kim Tomczak and Lisa Steele, the co-directors of V Tape in Toronto

KIM TOMCZAK: I'm just going to give you a general background to what V Tape is, where it came from. We're an artist-run center, a nonprofit like the Video Data Bank. We were set up primarily as a distributor in 1982. It came from five artists who worked

cooperatively in 1980 to form a cooperative system, and then grew in 1982, when Lisa Steele and I traveled around to Europe and to America and studied other models of distribution. We decided to make a more open model of distribution, one that wasn't so curatorial, but was a more inclusive model. Twenty years later, we've ended up with 4200 titles by about 900 artists, on every format that you can image, that has been produced since the late sixties to last week. We have a couple of pillars that form the way that we work.

[HERE A TAPE FROM 1972, "Janus" by COLIN CAMPBELL, IS SHOWN]

One of the pillars that we operate by is when we take on an artist, we take on all their work, and not just the ones that we think are sellable or not sellable. We take on their entire oeuvre. The other pillar that we stand by is that we say all of our titles are in active distribution, regardless of the format they were produced on. That puts the demands on us to produce a playable dub on order. We do not deaccession work. Even if it doesn't sell or rent, we maintain it, and we have a custodial role. That is how we see ourselves. We maintain a clean, healthy, friendly environment for the work, and we make the work publicly accessible. We have an office, with several viewing stations, and all works can be observed at the office by the public.

LISA STEELE: We are about to go online with a bibliographic resource, which we've been collecting for the last fifteen years, that we've put into a specialized database. We



see the work (the research and resource building) V Tape adds to public knowledge and public accessibility of video art by also making bibliographic resources available. So that it too becomes a source of pedagogy and study. It is an important part of what we do.

This is just about to go online. We have about a thousand individual citations, and we'll be adding to that.

TOMCZAK: ...In about a month, on our website, which is vtape.org, you will see a bibliographic section as well as the tape description section. So it's this wonderful searchable database of articles on artists. You can search by author, by title, by artist, whatever. It will give you the source of around a thousand articles, to start with.

The role of making each title available upon demand has created the necessity for us to also have a restoration and a duplication center within the office. Unfortunately, we do not have BAVC in Canada. It's an incredible resource for wherever BAVC is, but we don't have that and it's a shame. Our production centers strictly do production. They never see the role to extend into preservation, duplication or saving.

This tape is not a particularly great example of a preserved tape. We wanted to show you this to just give you the point I'm going to lead into now. Unfortunately, we lost Colin Campbell in October of last year. He was the chair and president of our board since its inception; and also, he's certainly one of Canada's most important video artists, having produced work from the very beginning video art. This is from 1972, and was produced on half-inch open reel. When Colin passed away, his tapes were entrusted to V Tape, but

that is all; I mean, we simply have them now. Since we're talking about economics, I think that one issue that we need to think about as custodians and as the kind of older generation of people interested in this particular medium, is that we will need to work with our artists who are aging now. We will need to start to estate plan with them. One thing I think we could approach artists to do would be to assign part of their estate to the preservation of their work. It doesn't solve entire problems. Colin was an incredibly prolific video maker, and so we have now hundreds of his tapes in our office, with absolutely no economic resources to do anything with them at the moment.

STEELE: This isn't completely accurate. In assigning and giving us the work, he also gave us all the proceeds from the work, so that any revenues that are generated from the work go back to it. But obviously, it will potentially take more than that.

TOMCZAK: So I think that's the issue that we really have to come to terms with now. I know we all hear baby boomers are blamed for everything right now, but the baby boomer video artists are now aging, and we are going to be faced with this incredible resource of material. I don't know if the term works here, but like the orphaned collections. They don't really belong to NBC or the CBC or the BBC. You know, no one really owns these things; they are really orphaned. We need to figure out — hopefully, with the artists and with institutions, with museums, with collecting institutions — how we can begin to address these things. I know Lisa wanted to talk about a particular project.

STEELE: One of the things Kim was talking about earlier was how we built up the resource center in-house, to actually do the preservation. Kim is primarily the person who does half-inch open reel restoration--a tape at a time--after hours. After everybody goes home, he stays and does that, and that will work for a while, I guess. But it's also on demand. It's partly on demand from, quote/unquote, what BAVC calls "clients." So we have people who send us work that is not artwork. It is primarily on demand from institutions. I want to briefly discuss the importance of the institutions, the museums and galleries, and the curators who put together selections of work that include works which need to be restored. Then the fund raising that has to go into that kind of thing — which interests me a lot at this point, and I do mostly the financial and fundraising part for V Tape. I think it's an area we have to work more strongly with. Primarily, we have government funding of various levels and kinds. In Canada we do not have as much private funding or foundation, but it does exist, somewhat. This is the kind of thing that I think we could get a lot more people involved in, in terms of donations, specific bequests and actual monies being given to artist centers to bring works back into circulation that are tied specifically to their exhibition. While I understand the point of going into a big room filled with stuff and starting with A and going to Zed, it doesn't make any sense if it's not going to be looked at. It does make sense because it should be preserved; but the real kind of selling point, I think, of preservation is the exhibition of the work. The reintegration of works. Some of these works were produced in 1980. We have works that are not ancient, ancient; they're works from the early 80's, that need to be restored now

because they were made on early three-quarter inch, and they look really bad right now. It's not the ancient works; it's actually the sort of middle-aged work which needs it now. We were in Paris and found this book from the Pompidou. I don't know if anybody had a chance to see it. The show had just closed and we didn't actually see the show. It was Jochem Gertz's show that they put together at the Pompidou. He's a performance artist, primarily, and his work was all restored specifically for this exhibition. He's not a video artist, but it involved restoration. They had to reclaim fifty works, and there is actually a section in this book which talks about that process. His works involved video in ways that did not just set up a camera recording of somebody performing out there; there was a lot of interactivity. It is almost a twenty-five year history of his work. It seems to me there is much of the sort of specific nature of the ways in which video — particularly interactive video and the peculiarities of video installation, video performance that's continuing on today — makes challenges, not just to kind of do bulk restoration, but to actually recapture. That is what they talk about in this catalogue, which is interesting. How can you recapture that? You can always just copy a tape — which is hard enough and expensive enough — but actually recapturing the spirit of the way in which the work is used seems to me important. I think sometimes the look of a tape, the quality is really what it looked like. It didn't look a lot different than this, even at the beginning.

KACEY KOEBERER: I am Kacey Koeberer, and I manage the client side of BAVC, so I'm the one people talk to. I do the initial estimating of how much the project will cost. I'm going to break down the numbers for you, as far as how our facility works. As much

as I would like to present a blueprint for everyone to build their own mastering facility, all I have to work from is what we've done. But I want to start off by talking a bit about BAVC.

We have a huge facility, 14,000 square foot facility. We're open seven days and offer various services: educational workshops about everything from how to shoot video to how to edit. We train people in the Bay Area on web design and video work, to find them jobs within the local community. We also offer postproduction services for independent artists and users, so we have edit suites that people can access for subsidized rates. Then we have specialty services, particularly preservation and ... duplication ...

Preservation is close to our hearts, but it's not something that we do every day; it's a small part of BAVC. We would like to make it larger, but resources are tight ...

We do share use and expense of most of our equipment ... Myself, Heather, Jon and everyone at BAVC wears many hats. We don't focus exclusively on preservation. Most of the equipment is shared. There are of course a few things we use exclusively for preservation: our half-inch open reel decks, our cleaning machine. Everything else, our Beta SP decks, our digital BetaCam decks - we share all of that equipment with our postproduction services, with our educational workshops. So it's really a tight fit to try and squeeze everything in.

Just a little bit about the initial investment and how we got started. We got an NEA matching grant for a hundred thousand dollars around 1995. So we matched this amount with grants from the Andy Warhol Foundation, and California Arts Council, and NAMID

which is the cataloguing project out of AFI. We also got a hundred and fifty thousand dollar grant from the NEA in 1996, under their Heritage and Preservation Program, which allowed us to set up the digital side of our services. The initial expense of setting up the project was both the half-inch open reel decks that we still use. We are even in an exchange program with Intermedia Arts in Minnesota. We transferred a hundred of their tapes in exchange for the machines. At SFPAL, the San Francisco Performing Arts Library, they were cleaning our their storage, and found a CD deck and donated that to us. And then we purchased the Recortec cleaning machine for fifteen hundred dollars. The rest of that money was put mainly into research, development and purchasing the peripheral equipment necessary to perform the transfers.

I wanted to give a breakdown of our expenses in 2001; this is what it ends up looking like. We mastered in 2001, 470 half-inch open reel, 550 three-quarter inch tapes, and 280 VHS tapes, which brought us an income of about 66,000 dollars. In order to do all of that, we had to purchase a new DvCam deck, mainly for the tapes that The Kitchen was sending us; they wanted DvCam copies, so we bought a deck for that. We purchased a VHS cleaning machine for another archive that had a lot of material on VHS, and we purchased a Beta SP deck that is often used in our preservation program. Just our equipment and repair is astronomical. These decks are really hard to fix, and the engineer is very specialized, and he's pricey; basically our equipment repair broke down to 4500. We must also account for a percentage of expenses that it takes to run the BAVC facility. The cost of labor is crazy, too. It is expensive to have technicians that really know this material, and we spend a lot of money on technical and administrative support.

Every year we try to have events that expose people to the whole preservation plight, so we hold preservation events and workshops, and that costs money. We also try to stay up on what's going on in the archival field, so we go to AMIA and things like this, which costs our department money. Our contributed income, we get a yearly grant — thank God — from the NEA that is just for general program support, for 60,000 dollars. We also have other private contributions of about twenty-five. When we combine our earned and grants and contributed income, it just about equals our operating costs. We are covering our direct expenses; we're breaking even, but there are many additional indirect expenses. All those things it costs to run a facility — electricity, rent, all of that stuff . There is a list of prices of all the equipment that we have in our facility that we use on a daily basis to perform our transfers. I'm sure everyone could haggle with me on these prices. You can get the equipment for cheaper; you can broker deals. We were talking with Bill yesterday about how he's going to a bunch of auctions to get equipment for a lot cheaper. This equipment is accessible not always at these prices. But these are list prices for the equipment that we use and it adds up to a lot.

I believe why this BAVC model works is we are a fully operational postproduction facility so we share resources. We're kept state-of-the-art by the nature of our business, because we have to be. That allows us access for our preservation services to use all of those resources. We've also had an incredibly successful fund raising effort. As a whole, throughout its history BAVC has had powerful fundraisers: Sally Jo Pfeiffer, and now we're being led by Tamara Gould. We have been met with a good amount of success in that area. We are committed to independent media art; it's what we're all about, and we

care about this material. I don't know. Can it be duplicated? Definitely, these partnerships growing between commercial technology centers and media arts groups is a great model—what Maria and Bill are doing at Standby. Traditionally media arts centers are challenged by a lack of technical expertise and access to machinery.

How do we improve the model? We are proud of what we have done so far at BAVC, but we know we have a lot of room to grow; we depend on your input and your participation in our programs to give us feedback on ways we can better serve you. We would love to remaster your entire collection; we just need help in figuring out how this can happen.

We do want to be a force--not only as a service provider of this preservation work--but also an advocacy organization for preservation work in general. We're trying to increase capacity in tech training, and we're training more technicians to learn everything that Jon knows. We're trying to increase our formats that we can transfer, and hope to go into a little bit of audio preservation, one inch, Beta SP. We're producing a preservation DVD that you are all going to be on now. We're trying to develop a curriculum and workshops around preservation. We have a symposium this summer, where our workshops department will host three different sessions designed to educate people in the Bay Area about preservation and using archival material in their productions. The first class is all about the history of experimental video; the second class is all about how independent producers can incorporate archival footage into their pieces and that's being led by Rick Prelinger; the third class is going to be the basics of remastering. Also, we do project based co-grant writing with independent archives, artists, organizations; that is an area we'd like to develop, partnering with people at the very beginning of their preservation



efforts, and hopefully lend our grant writing expertise and technical know-how to the inception of their preservation project. Of course, it has always been a big dream to develop a scholarship programs for artists' work and collections, to sponsor a particular project, maybe once a quarter, and cover the funds to have it remastered. That is what we're up to.

JOHN THOMSON: Hi and thank you; I'm John Thomson, from Electronic Arts Intermix. First I'll briefly just introduce Electronic Arts Intermix. It is a very similar organization to V Tape and Video Data Bank. We were set up in 1971, so it's now in its thirty-first year. I can concur with the speakers before me about the evolution of EAI. We were a distributor and still are, but we have become in a way an archive as well, just through time by sometimes having the only existent tapes of certain artists. I think we have well over 2,000 titles in distribution, but we have many more tapes that are in storage on half-inch reels and old three-quarter masters boxed away.

[HERE THOMSON SHOWS "Organic Honey's Vertical Roll" BY JOAN JONAS]

This was a performance, at Castelli's, in 1973. The point of showing the tape was not only just to enjoy a brief moment of it, but to also bring up the issue of the relationship between distribution and preservation is to expand the available titles. In a sense, a distributor is not like a museum or a typical collection, where you have a set number of titles and you want them migrated or you want them preserved. We are completely tied to

distributing the works and having these works shown throughout the world. That is a prime motivation, a prime argument that we have in sourcing funding — which isn't really my role. It is the most essential thing about a distributor becoming a preserver of an artist's work or just a single title, and it's a role that I totally concur with Kate. It can be a burdensome role in a lot of ways, because it actually involves, away from the technical practicalities of the transfer, the cleaning, an enormous amount of research into which is the correct tape, what versions you have. Tapes can be labeled incorrectly, as we've already heard. It could just have written on it, "Do not use," you know. That might end up being the best existing quality of the work, because the original master edit might no longer be the best anymore. Those questions of what is the best, how it should look, all involve an enormous amount of research that I think needs time and expertise. It could also involve someone who is a graduate student, who could work on basic collation of information, databases that are all really essential in the whole process of preservation. To go back into the cost situation, what costs are involved when you, as a distributor, are looking at preservation? There are all of the staff costs, the overhead, the telephone, the e-mail, which you're taking on board. These are hard to divorce from, I guess, your everyday running costs in distributing work. You might have a tape that you think is the master tape, but who else is restoring that work? If the artist is no longer living, you know, what is their estate doing? What tapes do they have in storage? What tapes do their children have, their widow or their widower or whatever the situation may be. The more research into those kinds of things, the more possibilities there are of actually ending up

with a better looking, better quality tape. Then of course there are the costs of cleaning, transfer, stabilization, which we've gone over.

Precise cost is dependent on the complexity of sourcing these materials; the transport of tapes to you; the time involved in talking to institutions (throughout the world, possibly) about what they have and what they're doing. I'll give you an example. At the moment I am working with Sarah VanDerBeek, who is the daughter of Stan VanDerBeek, and we are talking about the preservation of Stan's video work. She has given me some three-quarter tapes and I have many three-quarter tapes and half-inch reels of his work. For some titles I have twelve U-matics. That is a huge job, to look at all those tapes one after the other, and make decisions about what the work did look like or what the artist's intention was. Sarah and I have just begun to look at some of these tapes and it's not only time consuming, but after a while, it's also difficult in terms of being able to make a decision about your value judgment of quality.

The particular point I'll make is slightly different from what was already said, because you've kind of stolen what I was going to say--which is great. But just in terms of thinking about funding, the needs of research are so important. Of course, the practical transfer, cleaning, is essential; but money can be saved in that area, if there is money and time for research.

BILL SEERY: I'm from Mercer Media, 135 West 26<sup>th</sup> Street, (between Sixth and Seventh). What we primarily have been known for is our audio work. For over fifteen years, we've been doing sound mixing, sound design, music work, mainly for

experimental and social issue documentary film and video work. But for the last ten years, we've been providing audio and multimedia services, and with convergence and everything else coming, pursuing that line. Our latest project is attempting to set up an archival and restoration service based on the BAVC model. There is a list of some of what we've accumulated so far in terms of equipment. What we are looking to do now is gain the expertise and the technical assistance of not only our friends here, but the community as a whole, to help us put this together and make it into a viable, workable facility. We've moved into a new space, about 3,000 square feet, so we have plenty of room. We appreciate any feedback and contact, any ideas about where we should take this, what we should be doing, and how we can best serve the community on the East Coast. Or all over the country, but you know, we don't want to step on BAVC's toes too much!

JIMINEZ: When I first was starting preparing for this, I thought of doing a definitive format discussion: what the sizes are, their composite, component, and all the technical details. I turned myself around, because that is now something that drives me a little crazy about media formats and I can only take it for so long. If you go to AMIA, the Association of Moving Image Archivists conference or events like that, there are a lot of projections about what will happen and the details about various formats. What I wanted to do, actually, is come up with five areas I think might be useful to look at when considering media formats, and then look at the various media formats and apply this to see what happens. I will mainly talk about analog to analog, and analog to digital. The digital to digital is another day; I will mention it, but I feel that is a big can of worms, and what we are really talking about is older work that is not being moved forward. That is my main emphasis. I won't have much to say about audio, but hopefully somebody in the audience will.

Tape is storage medium for the signal; that is what it is, whether it's a digital signal coming out of a tape, or whether it's the analog signal. As far as I'm concerned, that is the bottom line. I came up with these five things to consider, and they are the things that I have come upon. Though I do not claim to be an archivist or a conservator in the traditional sense, I have listened to a lot of them so this is informed by folks who have brought these things to my attention.

In terms of a format, traditionally one would think of a format - an archival format - as lasting for over a hundred years, but obviously that is not where we are at. It is a process of reformatting; we don't know how long, maybe every ten, fifteen, or twenty years. The

first thing I will mention is tape durability: in terms of the material the tape is made out of, the size of the tape and the amount of information that can fit on the tape. That is the way I would think of tape durability, size of the material. For instance, format like Beta SP or a larger format is usually made out of a better, more durable material, a thicker substrate. You have your base, you have some kind of binder, and you have the coating-- the oxide-- that the information is stored on. We have not spoken yet about degradation, what happens to tapes. The problem is the binder breaks down and the information falls off, or gets gummed; the binder basically gets “gummed up”. This is much of the problem. When you have a smaller tape, it is more likely to stretch. It is not made out of the same material. If you remember, the metal evaporate was a real big problem with high-8 tapes. That has to do with the actual corrosion of the binder. So this stuff is one place to look at.

I was interested to read recently that they say there's no binder with mini-DV, and that the information is imbedded in the base film. Or rather, the medium that takes the information is imbedded in the base film. That is actually a shift. That is the thing about some of these materials; they keep changing, and people who want to get into the study of that material [have trouble] because things are changing and it happens so fast.

The second thought I had was of the deck durability or the construction of the deck: the heads, the electronics of the deck, and how all of this stuff holds up. Some people feel that there's more that can go wrong with the smaller tape paths, that they are basically less stable and there are fewer people who will work on them; that's a problem with smaller ones. There is obviously a lot of expertise as to which of the decks really hold up

well and which require a lot of maintenance. Luke helped me a lot in the last few days, humoring me by talking through all of this stuff. One of the things he was saying was that the digital Beta decks, at least in the beginning of when BAVC had them, required something like a five thousand dollar head change each year. In addition to the cost of the decks, which are anywhere from, used, I guess, in the thirties to fifty thousand dollars, you have an additional huge repair bill. That may have changed as the decks have been out for a while, but it is an issue.

COMMENT: It's gone up, Mona.

JIMINEZ: Oh! It's gone up... So the issue is which ones are reliable? How can they handle the stuff on the tapes, the orange peel or whatever it is Kim was talking about? How do they handle the dirt they come across? Do tapes get stuck in them? Questions like these.

Then the characteristics of the signal, and the ability to carry the signal forward; the archivists and conservators say you want to carry forward the maximum amount of information. Obviously, with some of the digital formats, there are issues around compression and the compression rate: how much information might be "lost" in the transfer, the sampling rate of that particular format.

I want to mention the difference between tape and data, because I think there is a lot of confusion. You can't really just come off a tape and go straight to a hard drive without a conversion process. What you have on a tape is not data that is on a hard drive; there's a

difference. If you come out of a tape deck and it's converted to data, the data goes out and the other deck reconverts it and then puts it back on the tape. Sometimes there is confusion when we talk about analog to digital stuff, "Can't we just put everything on hard drives?" We can certainly discuss this, but it doesn't happen that simply. There are issues concerning standards, when the information comes off the tape and becomes data, and then goes from data back on to the tape, or goes from one digital tape to another digital tape. We can address these details later. That is another thing that people are looking at in terms of getting and moving that signal around. You also have the issues around error rates and the decoding. Yet another thing to look at is whether the signal is component or composite--component being the signal that is separated, the luminance from the chrominance. An SVHS deck or a Beta would be a component. There are some composite formats, three-quarter inch and others like some from the D family; I always have to look at my chart for that, but it's like D2, D3, D3, and D2. That is another thing to think about: what we want to do, and what we need to do to make it happen?

Then there is the deck obsolescence. We don't have the 8650 anymore, so this relates to is the deck still being made? Is it still being serviced? Are there parts? Are there people that are knowledgeable that can fix the decks? There is all this stuff going on with Beta SP. Some cameras are going out—they have stopped producing the cameras and certain decks. What they have said (I don't know if you can trust it) is that Sony will make service available for seven years after they drop a product. I don't know about Panasonic or JVC or what is happening with that. Traditionally, we've been in this industrial or prosumer line, as opposed to the broadcast line. For instance, if you go outside San



Francisco and other places like New York, there aren't too many media arts centers, libraries, or museums with digital BetaCam. In the media arts community we tend to be working in that industrial and prosumer line, as opposed to the highest quality broadcast. Obviously, these products are different, between what's available at the industrial and prosumer as opposed to what's available at the other levels.

Broadcasters and large clients really drive the market, but this is nothing new and we've know this twenty-five or thirty years. The three major manufacturers are Sony, Panasonic, and JVC. If you get into the newer prosumer gear, then you're dealing with companies like Canon, but mainly it's the big ones. We are in this changeover for broadcast, at least in the public television realm, from Beta to digital Beta. I don't really know what is happening with all these broadcasters; maybe other people do. But there does seem to be a changeover and a commitment to digital Beta, at least for a while.

In terms of going from uncompressed to a server, I think only CNN and a couple places have started to think about going uncompressed to a server. It's really just for them to store information that they're going to dump back into an Avid and re-edit. It really is not for long term storage but for media use. It's like a network with the data; not the tape, the data. The data can get pulled back to go into the Avid and be re-edited. So in terms of "Can't we just put it on a server somewhere?" Again, I imagine broadcasters are moving towards being able to deliver and store digitally, but that's a totally different mindset from what we are trying to do.

One of the positive aspects is backward compatibility and playback. I am aware of the Sony J series, that playbacks Beta, Beta SP, digital Beta, and the newer, compressed

format that is around. We have been dealing with obsolescence for a while, and the cost relationship of resources to production. Can we afford to buy a deck? Can we afford to buy the tape? Is it more than two hundred dollars a tape if we go with this certain format? What will it really cost us? Again, in different regions there are different resources available for transfer. I remember being at Visual Studies Workshop, some years ago, and somebody offered me a Beta SP to shoot on, and I was like: "I live in Rochester; I can't edit on Beta SP; just give me a good three-quarter Portapac or whatever!" It is going to really differ, in terms of the resources that are available.

We have talked about this relationship, at least with the media arts centers and individual producers, between production and preservation. This needs more exploration. I've always imagined there being more preservation done in media arts centers and I think that it is at media arts centers in addition to our great BAVC. But it has been haphazard so far and I wonder about centers that are focused on production working on preservation or focused on distribution. Steina brought up the fact that using DvCam makes a lot of sense for a person who's producing and using these tools. This obviously has to be weighed out. What [available tools] do we have? I feel like we need to collaborate a lot more. There are some partners here that are not traditionally [linked] with media arts crowd, which is great; libraries, university media centers, museums, public television, municipal archives, and a whole host of people in the region. I was just at the Grand Rapids Community Media Center, which is going to become part of this municipal archive-- city, county, and the museum. In terms of storage I don't know, but in terms of duplication, I think it makes a lot of sense. When I was at Visual Studies Workshop in 1990, I first

started to pull out those decks again. Just for me. Now it's 2002, twelve years later, and how many more opportunities are there for me to transfer that tape? If we go this slow, we're going to be in trouble! I think we have to be realistic about our resources.

Now let's take a look at some of the formats and just sort of think. There's no one right way to do things, which is great, because heaven forbid! There will be a range of solutions in different places. I included SVHS as an analog format, because some people ask about it. I'll be answering questions about these, but first let's just consider what they mean. These (Beta SP and SVHS) are two are component, or analog formats. Beta SP may be a stronger, more durable tape stock. There are plenty of decks, I would say, of both out there, probably more SVHS decks than anything because they're making a million a day or some outrageous number.

I think we may have more expertise, in terms of repair, with the analog decks than we have with digital. I think we have a broader knowledge base with that. They are certainly more affordable than some of these others. Except for the digital— or I should say prosumer digital formats. We probably have a sense of which ones are good, and which don't work as well.

One of these formats, I think it's Beta SX, people are saying was produced at the request of CNN. It's a half-inch Beta-type and a very compressed format, so it would probably make sense regarding acquisition. In terms of going toward digital delivery, I don't know what they're thinking, but it is more compressed. I'm not sure about digital S, but definitely digital or Beta SX.

Then there is the D family. These decks are, I think, in the thirties used, fifty thousand or so new. As I said before, with the D family there is component and composite; some are compressed, some are uncompressed. The one people are drawn to the most is D-1. This is an uncompressed component format. I actually don't know the exact size of this tape (maybe three quarter) but they are huge. They are expensive; with these decks, you're looking at an eighty thousand dollar price tag. Some people have gone to that when they've done remastering to Beta SP and then to D-1, think that that, you know, was an uncompressed component format, and as an archival master that's tucked away. I don't think you'll find the same market penetration with the D family, and so you won't find as many decks. Again, this affects the future of being able to retrieve the signal.

Then there is the DV family, or DVC Pro, which I think is a six millimeter format. Some of the things I mentioned about tape durability and the tape path size would apply to that — although the price is really great and it's compressed.

For our comparison, I didn't want to talk too much about optical, but I just want to say a couple things. Everybody asks me, "Why can't I just put it all on DVD?" I do not think it is a good idea for a number of reasons. First, we are still in the midst of the DVD wars. Secondly, it's highly compressed. Third, you can't fit much on it. And fourth, I don't think it's going to be around long. That is my reading, but as you know, things are changing and who knows what will happen. The other thing about optical media in general is there has not been a lot of testing of the material, and there are frequent changes in terms of what the CDs and DVDs are made of. They think they are quite affected by pollution and other chemical changes — for instance, writing on them with a

Sharpee. It is a whole different thing; it is a substrate, and there is dye and glue involved. To be technical, there is glue and there are other chemicals on there. There has not been a lot of information about their durability. They say they last for a hundred years but again, they're fragile in other ways, so I think it's something to keep an eye on.

Just in the last few days, thinking about coming here, I've just been wondering more and more why don't we want to use the Beta SP format, and for a number of different reasons. One is that it's an analog format. I know there are problems with that, such as the generational loss. But that's what we've been dealing with. We like it better when it doesn't happen, but I feel like I'm being sucked along in the whole digital thing. I go to these conferences, and there are tons of predictions and information about what's going to happen. Often it's talking about media-less archives or storing things on servers. I don't think they are very applicable. But the issues around the tape are really hard to track. Not that I necessarily think that things are going to settle down, but I wonder about going to a digital format if it's not needed. Partly because of the cost, partly because of feeling sucked along and that we can't really depend on any of these being around very long; wondering what's going to happen, and hearing a lot of predictions.

I'm also feeling like we have a lot of people who can actually help—that we can really help each other understand the mechanics of these decks, the maintenance and repairs of these decks. We can get parts; we have some time to gather things. I'm not talking about forever. But why can't we pull that analog signal off later, and not worry about pulling it off now? I just wonder about this. Regionally there are very few places that have digital

decks available with the bigger tape size, the bigger tape path, and all those issues. But I don't know about what the predictions are about how quickly that format's going to change with DvCam, mini-DV and DVC Pro. So now I'm going to turn it over to Steina.

STEINA VASULKA: I feel differently about this analog and digital thing. Once it is in digital form, the formats become very irrelevant. The compression is still very relevant. I take tapes I've made, I play them on a lot of other formats, and they play back for me. But if I take an hour of recording on this deck and go to a DvCam, it records only forty-five minutes because it is a different speed. When I go to the DvCam and put the tape in here, I can hear my noises from the recorder. Then it goes to the speed of that format it was recorded on. We also have a multiple playback; besides this SP and LP--there are at least three speeds built into this camcorder and you only know when you go from one to another. I was in Iceland, my native country, and they had this damn camcorder that always shut off-- there was no way to keep it on. I just stuck a tape into it, and it taped always for an hour; then we rewound the tape, because we needed a live feed and that was the only way to do it. I take this tape home, I stick it in here, and although that's a Panasonic PAL, it plays back on my Sony and TLC. We have come to a point where this paranoia of VHS and SVHS, component and composite, all those things are rapidly becoming irrelevant. Obviously there are different size formats now. There is the long one, and Hollywood is going to come up with gazillions of them I'm sure. But as long as they all playback, they are inter-compatible and it's not that important. This is just my opinion. It is that it is important to get the old, and I don't know how important it really is

to get the old stuff off right now, or if you can wait another twenty or thirty years. I don't see the deterioration going like that. (Yesterday people were talking about mold, and that scared the hell out of me!) But otherwise, can't they just sit on the shelf a little longer, until this format war calms down a bit?

I used to be very apprehensive about compression and especially these ideas that you compress more or less, according to the information on a particular frame. I have worked with the Sony codec for a while now, and I'm very impressed with it. At least if you are coming from anything that is black and white, it's plenty. You never see any deterioration or any difference, really. I'm sure there are fanatics, and I might become one of them myself, because remember the Lionel people — who are still around? I mean, if a musical recording isn't a Lionel, it's no good. [They consider] CD stuff not as good, but thank God for the CD; it has change our whole culture. When we were battling with this scratchy records, dust on them, fingerprints and everything--and they were short. You could only play what, twenty, thirty minutes? See what has happened to us as people since this CD audio? Not that anything is available, and maybe there are plenty of rewards for a lower quality. But I don't know if it's true, and it's the same with this. Once it is digital, is it so retrievable. We don't really have to worry about the material it sits on, because every time we change it to another material, we are transferring over all of the information--every zero and one that is on it. It is not a battle about degeneration anymore. "I'm sending you a third generation tape--please keep it in mind;" you don't have to say that anymore.

I want to talk about things that I do not know, and that is how this is encoded and decoded. It is a mystery even to my genius friends; there is an ancient Japanese secret and they will not let us know how they do it. We know it is encoded, not like a film, which is like a frame— or even video, which is scanned. After it is scanned, there is a black, and then the next scan. We understand this, but we also don't quite understand this. I'm especially intrigued by the decoding. If you have done your edit and put a black on the end, and if you are fooling around with this last frame of video and black, you get what you see on the black, some blocks of the last frame. Suddenly you understand what you are getting is partially the last frame of video and partially this black. That is because when it decodes, it just take information and this is your field. Then comes the next one, and this is your field. This is why we don't see analog-type dropouts on digital. If you take the information directly into digital and then play it back, it is restored (to a large extent) because the dropouts that you looked at going in don't come back to you because there's so much intelligence in the retrieval process. Those little things, they decide to skip and not show you the drops, but they take some information from the previous or next frame and put that in there instead.

We were talking about methods to restore and retrieve. My method is restore, retrieve, and restore. It is to save my material to digital, which I'm some sort of half way through. I must say my biggest stumbling blocks are the playbacks, these old tape recorders break down all the time. I have, like, ten of them, so I throw this one out and take the next one; it is very problematic to get the information onto a digital with no signal restoration. But it can then linger in this digital forever, or until you need it, as far as I'm concerned. That



is when you go into this second part of the restoration, which is to set your black and white levels which Heather discussed. If it is not already a fact, there *will* be software that does this. I know there is already some software that resides in those editing programs, but it's not good enough. BAVC discussed how they have somebody physically look at the tape and take down the numbers where somebody flipped the light switch and the whole situation changed. This is what computers are so good at; it holds it at certain levels, until everything changes, and then instead of a human having to change it, the computer can change it. I haven't heard of software that is specifically written to restore this, but it will be there soon, without question. I was apprehensive about signal processing in digital, because it was clumsy and expensive. It was hard to throw in a whole hour into the computer, but it isn't anymore; it's a piece of cake. You throw in several hours of digital recordings into the computer, and then you just let the computer work it out. I think once it gets to a digital form, we have plenty of time to think about the next step, the second part of the restoration. As I say, it might linger there forever or we might need it today to look at some visual materials. I want to have it restored right now. So the priority goes according to need. The most important aspect is always the retrieval. We have gotten along with linear, instant retrieval because, let's face it, tape is a drag. It is ten minutes in, play for three minutes, ten minutes in. But instead, we just go on the keyboard and "Here it is." Or with whatever other means to access the information. It is all there and instantly accessible.

That is one part of retrieval. The other is the cultural retrieval. I think we all know that we are at an unbelievable cultural revolution and for a lot of us, it's already old hat. But for

others, we are just getting into it--and that's the web, and the very idea that you can access all human knowledge on the web. It is so preposterous that it's hard to adjust. I have taken a long time to adjust to this idea that it is all accessible. We now have website that maybe will also become obsolete; we don't know how this is going to go. I got a little depressed when we were talking about retrieving a high school drama, but then I thought: God, if I could see a high school drama that they did in the times of Leonardo or Aristotle, it would be so fabulous, you know? It costs so little to restore all of this. In bits and bytes, it is a shrinking field and it is getting down to nothing.

SELSLEY: A question is if we see signal deterioration after we clean the tape?

Well, that is difficult to answer, because when we get a twenty or thirty year old tape, we don't know because we can't really do a before and after. Some tapes have a little more deterioration than others, but I can't objectively say.

VASULKA: I do the cleaning physically, because I don't have a large stock, like you do. I have maybe three or four hundred tapes I have to do. So I just put a cotton glove and I run it through one of those obsolete machines, that don't play back anymore, and clean it up. I get this incredible goo; it is black and ugly, sometimes oily and sometimes dry. You can see all the stuff that has fallen into the recorder when you clean the path; there is a lot of stuff that comes off. But in spite of all the stuff that comes off, once the tape plays, it plays perfectly. It plays like the day I first saw it. But I'm not sure.

LUKE HONES: From our experience early on, we decided not to transfer tapes without cleaning because we just had so many bad experiences with heads clogging and tapes sticking in the tape path. We did do a test where we did one pass through twenty passes, all in one day, and then compared them. In our online suite, we did a split screen between the first pass and the twentieth pass; looking at the scopes, there was no real difference between the two.

VASULKA: The other thing is about speed of deterioration. Do you think it is important to save them now, or can they sit in those boxes for a few more years?

HEATHER WEAVER: I think it depends a lot on how they're stored. As you've said, you're in an arid climate and perhaps you aren't having as many problems with mold. From what we're seeing humidity seems to have a big effect. Jon: since you first started doing preservation, have you noticed if things are getting dirtier and taking longer to clean?

JON SELSLEY: Yes, Heather. When I first started seven years ago, it seemed that on average, tapes took two to three passes to clean. Now the average seems to have gone up to four or five passes before a tape is clean. That's just a personal observation.

HONES: I think part of this discussion, and some of the exciting information Bill Etra brought in, will help us start to think about other routes besides the cleaning route— or besides what we started out with. Basically, the process we're using now is the same process we started out with.

ETRA: There are several things I'd like to make clear. My first videotape has disintegrated, probably because it wasn't stored right. The only thing I have left from that era is something that the Vasulka's still have, which I shot with an Orecon onto film. That is the only piece that still exists from two years of early works during the late sixties. Regarding people's worries about the quality or the compression in the digital realm (something I know a lot about); there are two things you must remember. One is the bandwidth is extremely low on CV and AV format, half-inch reel-to-reel tapes. There is nothing terrible that is done on the analog side when you're digitizing it; you don't get to the point at which you're losing information on any of the digitization of the half-inch tapes. I happen to know this, because at the time I was looking at digital information, most of the three-quarter inch cassette decks had a cutoff at 2.8 megahertz. Again, for color or black and white, there is nothing--if the digitization process is done properly-- that would lose information from those tapes. Even the Sony one-inch reel-to-reel, in the days they were first broadcast with those big, standup machines that were thirty thousand dollars, had a cutoff at about 3.4 or 3.5Megahertz. It was all under 4 megahertz. All the compression methods will now deal with that; I cannot believe anyone could tell if there is any signal loss.

In addition, when you retrieve the information from the digital domain in the compression methods, there are different methods of expanding the area you have to work with: like going to a higher bit depth when you reconstitute them, which allows you when you're correcting it to play with--instead of a 24-bitX signal--a signal with more room so you can correct the gamma and the color path. There are all sorts of techniques. Lucas did some of it on the computer effects for this last *Star Wars*, when he bumped them up before they actually went out filming. Without getting too technical, there are techniques in existence that allow for all those early tapes to be put into digital with virtually no loss from compression.

COMMENT: There is a certain paradox when talking about early tapes. When you take the brown coated CV tapes, you don't need to clean them. In our little paradise, it plays every day without cleaning. There were these upgrades, like the black coated tape by Sony, which don't play. Steina does it by rolling them; she adjusts the deck and rolls them horizontally, until they dry out--maybe ten or twenty times. Then she goes through and collects the glue or whatever. They eventually play. For the professionals, this is no way of doing it, because they have to make money. If you had allow for it and there is no other choice, you can do it by hand and eventually you will get every goddamn sucker to play! Then there are intermittent programs, like in U-matic, where we have no problem. There are certain types of metals that are on the head that repel this goo or dust. Others freeze immediately. So actually, there are a number of irregularities. We are battling it in a pragmatic way, pushing the most bedeviled tapes into the corner. Like when Etra was

looking at Sony stuff, you just go directly with the tape and extract the information digitally as a map and then that goes to a computer where it remaps it into whatever format there is, without going around the head. Because you can't play a tape until it goes around the head. That means they're on the drum, and that's what we are talking about, post and drums. So we are stuck in the same level as anybody. But once we get over that, of course, there's no discussion left.

PIP LAURENSEN: This has brought up a lot of different issues. I think we need to have a different discussion about the involved risks. It's one thing to be able to create miracles. There are people who have spent a lot of time with this material in the field, and who are able to do miraculous things, almost bring things back from the dead! But there is a point that most of the people dealing with this material should be minimizing the amount of change that is introduced in terms of the signal, and should have an accurate transfer of material. It's very difficult for most people to make judgments about what change is acceptable as you go through all these different possibilities; maybe they aren't the author of that material. It's very hard to get good criteria for success when you're doing all of this. Therefore, I would argue for a much less risky strategy, and to be much more cautious around issues dealing with compression.

The other thing is when we talk about "forever," I think we really need to know the risks, in terms of how long that is. Your tapes are still on a very, physically, vulnerable material. I think we have to be careful with these sorts of systems, and that is by assessing your risks. You have to be realistic about what you're committing yourself to,

in terms of regularly, systematically transferring that material when the stock deteriorates. The one-shot wonder of being able to transfer onto a format and then not worry about it is really dangerous. You have to make an ongoing commitment about the program, in order to take into account the risks of the formats you're transferring onto.

JIMINEZ: I think it is really different for an archive that handles materials for individual producers. I think that is what is great about having both of us here. I have my own stuff, mainly a lot of community documentation, in the hallway at home and God knows if it plays! But I also work with a lot of archives, and I wouldn't really recommend they go to DvCam. As I was saying about the Grand Rapids Community Media Center, they are mastering on DvCam now. It's a different story for the digitally born stuff, but I think that's another discussion. I said to them, "Look, just do two masters when you do it, and put one away someplace safe. At least do that as a preventive measure." We are dealing with the same old thing and we are going to have the same old problems, because lots of people are mastering to DvCam now. It's just one of those things

SARAH STAUDERMAN: I'm Sarah Stauderman, and I work at an archive at the Smithsonian Institution. It has a lot of paper and old photographs and glass-based materials, but it also has a lot of audio materials, video materials, and film. I'm going to introduce something I've developed over the past several years--working off of what the Society of American Archivists had done to prioritize their collections within archives. I recognize there are many individual owners and institutions here that do not strictly fit into an archives type of collection. Please keep your mind open and see how this might relate to your collections, or to your interaction with collections of videotape. Help me figure out whether or not this is going to be a useful document for people who are trying to prioritize their collections within an archive, or for that matter, when trying to advise other people about how to approach their collections.

The Society of American Archivists has something that they call a matrix. Basically, they're trying to combine issues of value, issues of the use, and issues of the risk of any given material. I adapted this for videotape.

Obviously, the first thing you are going to do when you walk through a collection is you are going to identify it. It is sometimes just useful to know simply what the age of it is. The first thing we designate is the series or collection name, the date range, where its location is, and how big it is. Then you come to a box that says "survey results from part four." I put this on the front of the document because I wanted people to be able, once they had gone through the entire collection, to put the results of their search at the very



front. This could pose a major formatting problem, and I'm willing to put it at the end.

There is a place for your name, a description of the person who is doing the survey, and the survey date.

The first question asks: are the majority of items identified with labels or descriptive materials, yes or no? Boy, do I see lots of collections that don't have any descriptive materials or labels! This is our first big impediment when we go into a collection and try to prioritize it; if there are no labels or descriptive materials, it is going to be really hard to justify to my managers that I want to reformat this material. If [there are descriptions] we can proceed to part two and collect one hundred dollars; if not, we continue with this section, which simply asks one more question: can the majority of items be played back? Are there playback machines available? Yes, no, do not know. Now, for a lot of people filling out this form, they won't even know what they have. They'll be looking at something and they'll see that it looks like a VHS tape, but it's actually thicker than a VHS tape or it's actually smaller. What they probably have is a U-matic that's twenty minutes long, but they don't know that, so they won't know whether or not they have the playback machine. Or maybe they do have the playback machine and they feel confident about it and for the purposes of illustration, they can go ahead and look at some of the materials. If you can do this, randomly select 10% of your collections to preview and determine content. If you can not or do not know how, seek conservation or audiovisual assistance — which I love, because as a conservator, when I read that I'm thinking: I do not know what to do next, and I'm the conservator! They are supposed to tell me what to

do! But anyway, the idea is to go find the experts. Do not bother proceeding with the survey; don't waste your time with the rest of this unless you know what you have, what you are going to be looking at.

But let's say we know what we have and we have descriptive material; we can go to the value assessment, which is part two. This is sort of "jargon-y"; it's the stuff archivists sat around a long time and thought about. Trying to stuff this into, say, an aesthetic collection, artistic or museum collection, might be difficult but let's work with it. We'll ask the following questions and give them points: Do the videotapes within this collection relate to the mission statement and collections policy of the institution, in terms of the topics that are being documented?

I'm going to give an example from my own archives of early videotapes of pandas. The Smithsonian Institution has pandas and many panda videotapes from 1972, half-inch reel-to-reel. These materials were watching the pandas every day, and used by the researchers to determine panda habits. How does this relate to our mission statement and collections policy? We collect materials that are related to the Smithsonian, and our mission statement says that we will preserve them. The topic that I'm looking at is on Smithsonian pandas, so it gets a two.

The purpose of our archives is to preserve materials and make them available to researchers. This is a major issue for us; if it is not available, it doesn't exist. Actually,

that's like a line out of "Star Wars: Attack of the Clones" — it's actually a really bad line, but... If the material isn't here, it doesn't exist, which is not true. But it suits my stated purpose, so the answer is yes.

The next section is regarding institution users. We know who our institutions users are, and we know who our clients are. Knowing who your users are is an extremely important part of whatever you do, or whoever your customers are. We have lots of developing interest in pandas, so it is assigned a two there as well.

The general and specific functions and/or topics; this is a very archival term. The question is: do the materials relate to the mission statement or collections policy, with regard to your general/specific function, or your general/specific topic or area? If you're a rare books library and you have materials on 20<sup>th</sup> century industry, they don't relate.

That's what this is about--whether or not they relate. In my institution, our general and specific function is to collect Smithsonian history. Things that are vaguely of interest to us might be things that we would capture off line, off of a television screen, when the secretary of the Smithsonian talks on Nightline or something like that. But that would be secondary; the videotape of his actual presentation made to our associates would be of primary interest to us. In the case of the pandas, we collect the research product of our employees; therefore, it is assigned a two.

The next section is relationships and repository goals to other repositories. Yesterday, somebody said, “We have a problem where we may have a videotape that isn’t as good, but for all we know it may be the only copy of this particular artist’s output. But I think there might be families out there or collectors who may have a better quality copy.”

Within research libraries and within more established collaboration organizations, there are systems for determining where other copies exist. In this case, our repository may be very interested in collecting panda material, but the Bronx Zoo may as well. We may decide that we are going to share information, and they will collect certain types of panda material and we will collect certain types of materials. If it is possible, and you can make liaisons with other groups, you might be able to answer that question and say, “Actually, that institution over there is responsible for maintaining this artist’s work.” Or, “That institution or collection is doing a really good job of reformatting materials, and I’m not going to spend my money on this item, when I have other items over here.” So that is where that question is leading. In the case of original panda materials, it’s a two; it’s a yes for me.

The next section is the relationship to the known world of related documentation with functions and topics. Again, it’s a very similar question to who else is doing panda research? Who else does a better job? Maybe there is a panda research library out there that we should be sending our materials to because that is all they do. They are pandas, 24/7. In this case, we are the only people I know collecting live panda documentation from ’72, so for us it is also assigned a two.

That is the first part: what is its value to your institution? The second question is: what restrictions exist so your items cannot be accessed? Does the institution have legal custody of the videotapes, or the expectation of obtaining legal custody? This is a great question for those people who think they have the most valuable collection of late seventies kung fu movies, or something like that, and they want to duplicate them. They are not the legal owners of that material. It may be obvious to all of us, but it is a good question to ask. Since we have legal custody of these panda videotapes, it gets a one.

The next question: are the videotapes accessible to users without excessive restrictions or hindrances? This is a tricky question, because if it is in half-inch reel format, it is not accessible at my archive because we do not have a playback machine. I will have to reformat it. What this question is asking you is if you theoretically had a copy of it, would it be accessible to users? Yes, there would be no restrictive hindrances or copyright issues--they would be accessible now.

Finally: are there resources to preserve and maintain the videotapes, or the expectation of obtaining resources? Well, I figure once I fill out this form, take it to my manager and tell them it's the number one priority, there will be resources available. So basically, for my panda tapes from the early seventies, I'm giving this a high score. You just add up all the numbers you have assigned. When I do that with this example I get a fifteen. If you had other things that were lower assigned values you would still add up those to get your

total. Down below it gives you a value score. So maybe the pandas weren't a great example because it's the highest value material I have. As an illustration, sometimes it is good to have a medium value material. You would put the information in your little form, and would know you had a value score of fifteen, or an "A". My caveat here is if your overall value is high or moderate, proceed to part three. If it's low, it's not worth analyzing. You already know it's going to fall to the bottom of your prioritization issues.

Part three is about risk assessment; we are going to determine fragility or obsolescence of the collection, and the need to reformat. Physical condition is going to be a matrix of the instability and the physical damage. There are a couple of problems with this matrix. First of all, there is currently no system for determining damage with materials unless you actually play them back. We don't have an acid detection strip — though Linda Tadic mentioned the Image Permanence Institute is working on some sort of detection system for determining condition in the collection. You may have had an opportunity to play back one thing and you saw that there was lots of gunk on the head, or as you cleaned it there were a lot of problems that occurred in your collection. You look at the physical condition of your collection and first determine the number of highly unstable materials. It may be a type of chromium metal tape from the late seventies or early eighties, and those are notorious for being unstable. Then you'd look for the amount of dirt or other physical damage. Under the "Physical Condition" category it says: amount of highly unstable materials. My panda materials are actually not in bad condition; they've been stored fairly well. Even though they are half-inch reel-to-reel, they are in their boxes and

there is no evidence that there is a problem. I'm going to guess that it has a B value, that it is moderately unstable. Then after assessing the amount of dirt or other physical damage, such as poorly wound tapes or if you saw spoking--any number of physical things when you're looking at the box, you can give it a score. The actual physical condition is pretty good too, but I'm still going to give it a moderate value--a B. The idea with this little matrix you have is to draw a line. The unstable material is a B and the physical damage is a B. Where their lines intersect, it says C, so the condition, as I gave it, is low. That has me scared, because I know it's a half-inch videotape and I want to reformat it. But that's where the obsolescence comes in and I really didn't know how to address this issue in any other way than this complicated format.

First of all, you need to know what you have. If you know what you have, you are going to look at the format and the age. This is how I broke it down, and I'm very willing to add information to this. Any reel format — two-inch, one-inch, half-inch, except for one inch SMPTE type C, any unknown format, some sort of weird consumer format from the early seventies, any tape between 1956 and 1970— is going to be what I consider the most vulnerable group. The second most vulnerable is cobalt type metal-based cassette videotapes, BetaMax tapes from 1971 to 1980. The third most vulnerable is three-quarter inch U-matics that were made that were made between 1971 and 1986 (I think that 1971 is too early for U-matic) one-inch SMPTE type C, and the 8 millimeter BetaCam, and tapes from 1981 to 1986. Fourth, three-quarter inch U-matics from 1987 to the present, VHS, BetaCam SP, tapes from 1986 to 1990. And then finally, digital formats and tapes

from 1991 to present. The breakdown of the dates is because I was following John Van Bogart's "Magnetic Media Storage and Handling Guidelines" from 1995. His research indicated that videotape has a lifespan of ten to thirty years, based on research done in the National Media Laboratory. We all have tapes that are older than thirty years that playback fine, and we have lots of tapes that are only ten years old that have problems. It is a rough guideline, but it is where my dates came from.

So how do you fill this out? There is a "most, some, fewer, none" column— three columns—and you choose one of the most. Let's say you have a collection which is primarily VHS tapes with a couple of three-quarter inch U-matics thrown in. You would find VHS and circle under most, that number which is twelve. In my case, going back to my panda videotapes, all I have are half-inch reel-to-reels. So they get the most. Now, I have few or none of the rest of them, and so I have to just basically circle the rest of because I have to get the right number. I believe I will get a forty if I add up all those numbers. But the concept is that you have to have one in most, and then you fill out the rest according to some, or few, or none. That should give you this rank. When I put that in the obsolescence score, it gives me a score of forty-eight and that is high, or an A.

So my condition is C, my obsolescence is A, and now I have to do the level of risk. I'm going to do my little line; when I do that, my matrix ends up indicating the need for reformatting is still high--an A. I've gone through this entire system. Some people will love it, and some will say, "This is just too many rules, I don't like it." I think it's very



useful for people to think along the lines of the way that librarians or archivists think sometimes.

When we finished part A, which was the risk assessment, physical condition, my condition score was a C and part B, my obsolescence score, was an A. Then you take box two and box three, you put them in the matrix, and you do the same matrix thing you did before. Obsolescence score is an A; and you just draw a line at A. And the physical condition over here was a C; and you just draw a line at the C. Does that make sense?

QUESTION: So why does that come out as A?

STAUDERMAN: Because where the lines intersect is the A. Sorry. It's like telling people stuff they should have a fifty-page instruction booklet with.

Masters and originals, unique copies, are the most valuable part of a collection.

Audio/Visual collections should contain user copies as well as maintaining the masters in their original format. In addition, a duplicate master in a contemporary format should be considered. Does the collection have user copies? If yes, consider whether these copies are adequate for users; and if no, consider increasing the value of the risk score. There is subjective measurement there. Does this collection have duplicate masters in a contemporary format? If there are duplicate masters, it would probably not even be a

reformatting issue and you don't have to do anything; but if there are none, you need to increase the value of the overall risk score.

Now we take this A, the risk score and go back to the front. We know our value score was a fifteen, or an A, and we also know our risk score was an A. When I do my little crosshatch on this front template, it becomes a one. This is my most valuable collection and I have to reformat it now. This is a prioritization scheme. One of the reasons why I never have showed this to anybody is because one, I think it really needs a lot of instruction and it needs more than just my thoughts on it. I don't know if it would be useful for people, or if on a theoretical basis it's generally useful. On a practical basis it may not be very useful. I don't know.

There are questions that are asked in the midst of it. Maybe you need to have a survey for the actual sampling of the physical condition of your materials and that's not a part of this. This is asking broadly: Do you have sticky shed, or do you have dirt? I mean, if you needed to do an actual survey, I have a two-page survey that is very complex and shows all sorts of information. But surveys like this general prioritization survey, at the end of the day, are probably only as good as some of the analytical tools— some of the sub-survey activities that went on while doing individual item surveys and so forth.

QUESTION: I think this is a great first step. Although we were doing the panda tapes, many artists are also dealing with camera masters, rough cuts, and final edits. How would

this factor in the relationship? Because if you're dealing with half-inch or three-quarter inch tape, and you have a whole box of tapes that deal with this one edited master, obviously the cost of preserving all of it is one factor--versus just the edited master. So I think this also might be a useful part of the paradigm.

STAUDERMAN: Just by saying what your collection size is, you could say "I have eight hundred tapes that comprise this collection." That's just at the very top, right next to that it's your highest priority. Obviously, this is only part of your entire cataloguing system, your approach anyway. But I agree: how can you use this tool effectively within your collections, when you have all these issues?

QUESTION: What I find helpful is part two, with the questions about ownership. That is great. In working with some public television collections that were offsite, and many boxes, that dealt with this issue: to pull boxes that have masters first. We talked about a collection policy and then pulled the boxes according to that. We pulled masters first and high quality dubs of masters, or clones, and then we pulled camera originals, original audio materials and original film. We worked our way down that way. For producers, I would encourage that whole masters— or camera originals, audio originals and that stuff — should be close to the front.

STAUDERMAN: At the top, yeah.

QUESTION: Regarding the economic issue. There's an interesting statement in item D, where you say masters and originals, unique copies are the most valuable part of the collection; and audio/visual collections should contain user copies, as well as maintaining the original in its original format. I was haunted by what Kate was bringing up yesterday about she had sixteen hundred U-matic tapes. Now she'll have sixteen hundred U-matic tapes, and sixteen hundred sub-masters of the tapes. We have not yet talked about increased storage costs when we talk about remastering. We talked to John yesterday about EIA's storage, and how expensive that's becoming. As soon as we make duplicates, we have to put the originals somewhere. We can't throw them out, because we will invent new and better formats.

STAUDERMAN: You know that is a debate. We could have a good debate about what it means to keep your originals. Obviously, it's going to come down to an institutional ability to do that. From a conservation background, that's what we do. The notion that there's an intrinsic value to those tapes, that somehow we might, in the future, be able to get a better image off of the original tapes if we just can hold onto them long enough, is where that is coming from. Yet I understand storage. If it's not worthwhile to hold onto these original materials, if they're going to end up being put in somebody's garage — which is not going to be adequate. They need controlled storage, and it needs to be maintained, while you're maintaining everything else. I have a hard time convincing my bosses about maintaining those things.

QUESTION: I find this forum to be incredibly useful. I think it's really interesting, because I wouldn't use it the way you use it; but I would use it. I would modify this and use it to evaluate individual tapes in our collection, and I would tag all those tapes with a modified version of this. What I see that is really important is that it is a terrific way of translating, a sense of values— and information —about a specific tape to a younger generation of workers. In some cases, they don't know the value of the individual piece and in a lot of cases; they don't even know who the artist is. So if all this could be tagged and evaluated, with a prioritized list — then that can be carried through time for a group of people who don't actually understand the importance of the original material.

STAUDERMAN: I remember you said yesterday that you also had to change or mix into some of your grant proposals some things you knew were important, but that you didn't feel contemporary grant reviewers would understand as important. The thing that something like this tool does for you is it says “we have a legitimate system of going through our collections and determining for ourselves what's important. You don't need to know who these artists are; we've documented why they're important. This is our legitimate system of review.” Then you don't have to worry about whether or not they've heard of your most important artist from that generation doing whatever they're doing. That is something that might be useful.

DARA MEYERS-KINGSLEY: What about adding the issue of appropriate storage conditions to this form? In other words, where are the materials presently stored, and

once you've made copies, will they be appropriately stored? I would assume that becomes a risk, or physical condition part of the survey.

STAUDERMAN: Well, this is where this needs a narrative, you know?

QUESTION: Is the collection catalogued?

STAUDERMAN: Yes

PIP LAURENSEN: I love this way of thinking about it. I think what conservation adds at this point is that we have this obsession about risk assessment, which is giving us a way of thinking about that which we should really worry, and how we should direct our anxiety. This is what conservators do, they worry a lot. One of the things that I would like to see come out of this meeting is that we take Sarah's form and think about what the areas are that we need to enhance to get more accurate assessments. One thought I had was we need to better understand what sort of failures we have in playback. Quite often we have something categorically different between digital failures in playback from the analog formats. We've got different types of failure going on, which involves different notions of risk. We have points where error correction mechanisms hit a peak, and the sort of creativity involved in getting those back is different from cleaning a tape that's got sticky shed. That was one thought in terms of trying to determine where the research

needs to go, so we can make some assessments there, and with the storage issue and the nature of risks with different formats.

For example, there is information from Sony that they will be making a real effort to go backwardly compatible with their half-inch formats, which they are not doing with their three-quarter inch formats. That information is there, but at the moment, we're relying so much on the rumor mill. To collate this systematically around this type of form and system, I think, would just be fabulous.

KATE HORSFIELD: The form itself, I think is excellent. I think for those who are here who distribute the works it is a very different situation than an institution which has a collection. We may have works (this would be internationally) we may have works in common, just distribution dubs. As we move forward in time, it may be necessary for some specific places to take a custodial responsibility for a particular artist's work, I would say. That may be something that comes up more. It would be EIA looking after a specific artist's work where copies may exist in other situations, as you were talking about. But they also may be with other distributors. That may be more a Canadian problem than an American one, but it is definitely an international problem. As not only the tapes but the artists age, that may be an issue that we'll have to come to terms with. It doesn't look like the notion of exclusivity looked ten years ago — which was what we were looking at as distributors. It may look like more of a conservation responsibility.

STAUDERMAN: Great idea. The Association of Research Libraries decided about fifteen or twenty years ago — to not have everybody doing microfilm, but to have a system so they weren't duplicating efforts. There can be very formal, or there can be informal ways for knowing where this stuff is so that there is not a duplicate effort. It takes a lot of work, but it's worth doing.

ELIZABETH WEATHERFORD: I think this is prefigured by the IMAP project, which has been trying to get across this notion of registration. But obviously, the purpose of the registration of commonly held titles would be to lead to these types of proactive responses. In one case we might have an archives, in another case we might have a library collection of independent media. The libraries strike me as very close to the distributors, in the sense of taking on common purpose, and archives having a slightly different set of relationships to the uniqueness of its materials.

JIM HUBBARD: In terms of the IMAP template, there are about thirty-five to forty users now, and we're looking for funding to do a pilot union catalogue. We hope to begin work on this by the end of this year, with three to five collections, and get the concatenated records on the web. This is also part of and a model for prefiguring a much larger project, what's known as the AMIA MIG, the Association of Moving Image Archivists Moving Image Gateway, a project that AMIA and the Library of Congress are co-sponsoring. It will be a much larger group of archives and collections and conceivably, it could have every collection in the world--although practically that is not



going to happen. These sorts of mechanisms can facilitate and it is one of the primary purposes of these projects.

# I. IDENTIFY THE COLLECTION: This form may be used for discrete collections of videotape within larger magnetic media collections.

SERIES OR COLLECTION NAME:

DATE RANGE:

LOCATION:

COLLECTION SIZE:

Number of linear feet:

SURVEY RESULTS (from Part IV):

**VALUE (BOX 1):**  
A=High B=Mod C=Low

A=High	1	2	5
B=Mod	3	4	6
C=Low	7	8	9

↓

**5. FINAL OVERALL VALUE SCORE:**

High = A (1-3)  
Moderate = B (4-6)  
Low = C (7-9)

Place this number on the top right corner of the worksheet

SURVEYOR(s):

SURVEY DATE(s):

Are the majority of items identified with labels or descriptive materials?

Yes ☐ No ☐

If Yes, proceed to Part II, Value Assessment; If No, continue with this section.

Can the majority of items be played back (e.g. are there playback machines available)?

Yes ☐ No ☐ Do Not Know ☐

If Yes, randomly select approximately 10% of the collection to preview and determine content. If No (or Do Not Know) seek conservation or A/V assistance. Do not proceed with this survey until content is determined.

# II. VALUE ASSESSMENT: Determine what role this collection has to the Mission and Collections Policy of the institution. If there is no collections policy regarding videotape collections, defer action until a collections policy for videotapes is addressed.

Do the videotapes relate to the Mission Statement and Collections Policy of the Institution in terms of:

	Yes	Somewhat	No
The topics that are being documented:	2	1	0
The stated purpose:	2	1	0
The institution's users:	2	1	0
The general and specific functions and/or topics:	2	1	0
The relationship of the repository goals to other repositories:	2	1	0
The relationship of the known world of related documentation to the functions and topics:	2	1	0
What are the restrictions on this collection?			
① Does the Institution have legal custody of the videotapes or the expectation of obtaining legal custody?	1	--	0
② Are the videotapes accessible to users without excessive restrictions or hindrances?	1	--	0
③ Are there resources to preserve and maintain the videotapes or the expectation of obtaining resources?	1	--	0

Sub-total

TOTAL

+	+	

## I. VALUE SCORE:

11-15 = High = A  
6-10 = Moderate = B  
0-5 = Low = C

If the overall value is High or Moderate proceed to Part III. If Low, consider deferring analysis of low value videotapes until after analyzing high and moderate value materials.

### III. RISK ASSESSMENT: Determine the fragility or obsolescence of the collection and the need to reformat. In this section a series of questions will be asked to determine the physical condition, type of format, and age of the collection.

#### A. Physical Condition

A = High, B = Moderate, C = Low

① Amount of highly unstable materials  
(e.g. sticky shed): \_\_\_\_\_

② Amount of dirt or other physical damage  
(e.g. poor tape wind): \_\_\_\_\_

#### ② Physical Damage

A=High

B=Mod

C=Low

① Unstable Materials  
A=High B=Mod C=Low

A	A	B
A	B	C
A	B	C

#### 2. CONDITION SCORE:

High = A  
Moderate = B  
Low = C

B. **Obsolescence:** Refer to the videotape formats guide for information on types of formats. Decide which format or age type you have the MOST of, and then fill in some or few. Choose by format first, then date.

FORMAT/AGE	Number of Materials			SUM
	Most (choose one)	some	few or none	
• Any reel format (2", 1", 1/2") except for 1" SMPTE Type C • Any unknown format (cartridge, cassette or reel) • Tapes from 1956-1970	2	4	10	
• Cobalt type metal-based cassette videotapes • Betamax • Tapes from 1971-1980	4	6	10	
• 3/4" U-matic 1971-1986 • 1" SMPTE Type C • 8 mm • Betacam • Tapes from 1981-1986	8	8	12	
• 3/4" U-matic 1987-present • VHS • Betacam SP • Tapes from 1986-1990	12	12	12	
• Digital Formats • Tapes from 1991-present	20	16	12	
Total Format Points				

#### 3. OBSOLESCENCE SCORE:

40-48 = High = A  
49-54 = Moderate = B  
54-64 = Low = C

C. **Level of Risk:** Measure of Obsolescence (Box 3) vs. Physical Condition (Box 2)

B. Obsolescence Score  
A=High B=Mod C=Low

#### A. Physical Condition

A=High

B=Mod

C=Low

A	A	B
A	B	C
A	C	C

#### 4. RISK SCORE:

High (Reformat) = A  
Moderate = B  
Low = C

D. **Master/Element:** Masters and originals (unique copies) are the most valuable part of a collection. Audiovisual collections should contain user copies as well as maintaining the original in its original format. In addition, a duplicate master in a contemporary format should be considered.

① Does this collection have user copies?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, consider whether these copies are adequate for users. If not, consider increasing the value of the Risk Score.  
If No, increase the value of the Risk Score.

② Does this collection have duplicate masters in a contemporary format?

Yes \_\_\_\_\_ No \_\_\_\_\_

If Yes, consider whether these duplicate masters are adequate for long-term storage. If not, consider increasing the value of the Risk Score.  
If No, increase the value of the overall Risk score

### IV. PRESERVATION PRIORITY: The priority is a combination of value and risk. Because videotape formats are inherently fragile, a collection must be maintained *regardless of use*.

Return to Page 1 and fill in Box 5.

JOEL CHADABE: I'm Joel Chadabe, President of Electronic Music Foundation and a composer. This is Alain Depocas, who is the primary archivist at the Daniel Langlois Foundation, and Woody Vasulka, who I'm sure you all know, media artist, pioneer. I say media artist, pioneer, but I've never really thought of Woody that way, and I've reflected that media art actually comes in two distinct types. There is media art that is an extension of books and film and so on, and then there's media art that has more to do with interactive installations that fits more into a kind of musical context--that's performance oriented. That is my perspective of the field; in a sense it's what I do, and it's what Electronic Music Foundation has presented a great deal.

Now, if we talk about history--what is history? I wrote a book on the history of electronic music, and discovered in the course of writing it, that one understands history from the perspective of the present. That is, you always perceive the present in some way. You ask, "What's going on?" Then, once you decide what's going on, you say, "How did we come to this place?" That's the way people write histories, otherwise history really doesn't exist at all. What I see right now is a phrase that all of you are extremely familiar with: convergent media. What it means to me is not only a combination of images and music. You can say once those bits and bytes are going down the wire, they can come out as images or sound, and who's the wiser for it? But the concerns are very much the same. I come to it from a slightly different perspective. I was just at the new Medialab Europe, in Dublin, speaking at a conference. The conference was called the NIME Conference, New Interfaces for Musical Expression. I'm telling you this not only because it's so

interesting musically, but because I think it has such important implications for video, for images, for convergent media in general, and for doing anything that would involve media in performances. The concern there by interfaces for musical expression, are devices--there're all kinds of things. Basically, if you look upon it as what you touch in a musical instrument, no longer do you need to go through the unpleasantness of holding—playing a violin like that, or taking a round grip and making it flat to play a piano. You can really produce very ergonomic, very dynamic kinds of devices. They can be video cameras that let you wave your hands in the air. One remarkable installation I saw was by Garth Paine, who incidentally presents his work, not really in a concert situation, but in galleries where he leaves it set up for the public to interact with it. What does that mean? Basically he has created a musical instrument, using as its control input device a video camera that can sense motion in the air or a position in a floor. In fact, he's letting the public perform this instrument, and this is a very important part of performable new media.

If we go back in history and look at the various roads that have converged to bring us to this situation, we get into the history of devices, the history of electronic instruments, even way back to the analog days. These are not really problems of preserving a record of a performance — for example, of a tape of a specific performance. In every case that I know— from Sal Martirano's "SalMar Construction", to some things that I did in the late sixties and early seventies, to digital stuff in the eighties— the issue is not freezing a moment that came out of these instruments. For example, to take a recording of one result

of Garth Paine's installation would be ridiculous, because it doesn't capture the work at all; it's not the point. The point is to make an object, like a symphony or a piece of music, that then even might have a performance, but it exists. Its identity really is as that object, performed or not. That might be what you want to preserve. But when you're taking a process where the composition really is the instrument itself, the question is how can you then preserve that? As opposed to preserving some particular instance of what it might produce, which could in fact, be very misleading—if it wasn't a good sampling.

So dealing with the issue of how to preserve performances is certainly something that is of great concern to musicians, for a lot of different reasons. Luigi Nono solved it in a very interesting way. Most musical scores give instructions to a performer. When you read a piano score, it's not telling you what middle C sounds like, it's telling you to push a certain level on a piano. In fact, when you're playing it on a synthesizer, you can get very surprising results. You can connect a middle C on an electronic keyboard to any sound you like. But on a piano, there are certain expectations that something will come out, and these kinds of notations are called tablatures.

Nono did not do that. What he did is to specify the sound in acoustic terms very specifically, so that it could be done with other equipment. He pointed us towards one example of preserving an electronic performance, long after his particular equipment becomes difficult to service because of lack of component parts, or lost or damaged in some way. Alvise Vidolin, who is a composer in Padua and a music historian, recreated what Nono did with up-to-date equipment. I was faced with a different solution, in a

different kind of problem, with John Cage's "Bird Cage." I knew that piece very well, because I helped John write it back in 1971-72. I was not only witness to it, but John was a friend of mine. These things are very germane, they're very important, because if you know the composer and you have a sense for the person's work, you can recreate it much better.

What we did in the studio is to produce twelve tapes--each a half-hour long--that were random combinations of birds recorded in aviaries, and John himself singing his piece "Mureau," which was his randomization of words by Thoreau. In fact, as he listened to himself croaking away there in the studio as we were doing this, he said, "It makes the birds seem less ridiculous." The third series of sounds were a kind of random track recorded by some filmmakers from German radio that were accompanying him in writing the piece. Once these twelve tapes were done, they were played back through a Matrix mixer, for any length of time. His score he told me to avoid, not to pay attention to in performance. The mixer was just kind of pushing buttons and turning things that routed a particular tape to a particular loudspeaker. Of course, the tapes were changed continually, so that this process could go on forever.

Now, how would you perform that today? Well, we were faced with that problem in opening Engine 27's performance season two years ago in New York. It occurred to me that [it would be] very hard to find those analog tape recorders; I don't know where that Matrix mixer is anymore. Well, why not just digitize the whole thing? So we just turned

all of the tapes into sound files in the computer, wrote a little program that randomized their diffusion to eight loudspeakers around the hall and it came out absolutely beautifully. It was very similar, in fact, to what we had done with it in performance. Here, then, is solution number two to preserving performances: recreating the performance with up-to-date media.

The third solution to recreating a performance, and the only other one I could think of, is to completely rewrite the piece. That is, completely redo it with an understanding of what it was (but new material, new technology) and just capture whatever one would consider the essence of the piece. In that case it takes a great understanding of what the piece is about, and knowing the composer would certainly help. I say composer even though the people who do this kind of art are not necessarily composers in the traditional sense of the word, but media artists, sound artists, whatever.

A word on the difference between a composer and a sound artist. Although the word [composer] is becoming generalized. Chris Mann, a poet and a friend of mine, is teaching a course in composition at the New School now. There is no reference to music there. Chris is a poet but he is also a performer. “Composition” then takes on a kind of generic term or meaning, which I think is great. But in the traditional sense, a composer is someone who has studied music. I have found that people who have studied music, and who come into the media arts, have a particular take on things. Listening to all those symphonies when you’re studying music gives you a certain sense for timbre and sound--



a certain sense of an evolving language-- that other artists who come into composing with sound from a media direction may not have. Talent is talent; so I can't say that any one approach is generically better. Unfortunately, when you study music for a long time, you carry a lot of baggage into the media arts. On the other hand, when you're a media artist, you might lack a certain sensibility to timbre and how timbre can evolve in sound and so on. So there are peculiar bridges to cross that, I think, will get ironed out a lot.

I guess my point is to bring to the conference a dimension of performance and of dynamic process, as [opposed to] media as an object; to introduce the problem of how to preserve performances, and certainly to understand the context. It's not like preserving an object; it's not like fixing up an old tape. There's nothing really to fix. It depends upon a human understanding of what happened, and one has to really understand the original context and understand the history. Let me introduce Woody Vasulka, who has also done a great deal of live presentation.

WOODY VASULKA: There are many reasons to decide that this art of transmission, of the creative activity, would now migrate from our daily artistic practices to this electronic cyberspace. But I'd say it was always, in a way, a struggle with what we call "the gallery", or presentations through institutions. In fact, that was the first departure between film or painting or other kind of—especially film as moving image, into the small format video. Many of us chose this particular route, to establish our independence from this kind of a banal environment, and started working with something quite unique and quite

specific—like material of electronic time and energy, products which then make pictures and sounds. A while ago we were approached by Jean Gagnon, associated with the Langlois Foundation, to look at our archive. We thought this is all about electronic images and sound. No, no. Forget it. It was about paper. Here we have a protagonist behind this whole thing. So paper still is the courier of the cultural shift between what was and what is, in this context. I must say, one day it indeed probably will end in the electronic—I don't know, what do you think?

RESPONSE: Well, I think having several preservation strategies at the same time might be a good ...

VASULKA: But really, why paper? Because, then of course, we realize that paper is somehow forever or something? We now struggle for defining what medium will carry this for us. From that point, it was a perfect strategy, in a way, for an institute that preserves the legacy. But of course, we (meaning people in practice) again, try to carve our independence on giving things to institutions, where you have to apply—there's a touch to it, certain amount of money, an expenditure; a certain ritual and acceptance or rejection and so forth. So we decided to put everything for free in a way, to this cyberspace. As I say, the deal we have made is very interesting. We kind of sold the paper, but got the rights to maintain what's called electronic publishing rights. To our family in the sixties, copyright and the idea of privacy and ownership of these printed matters like video, was always, in a way, socialistic. We thought things should be put out

there and see what people do with it. Fortunately there is no market for this kind of a product--like videotapes and all that stuff--and it never came to the possibility of returning some kind of a profit back to the process. In some way, we still maintain the philosophy — not only our family, but others. It's a Chicago group that pioneered that attitude in the seventies. What's the protocol of delivering the image, which was based on quality, to the public? Let's figure out a quality that could be released as some kind of value to society--forgetting the whole process of money return--a process of value systems. So we are there now, with what we call cyberspace (which is an animal that eats you alive) and these kinds of items. So I call them items now. They are pages, you know. Since we have a time constraint with this process of giving this material to the institution, we decided to hectically scan the materials. That's a whole different story. The actual products of our archive are pages of information. We work now through what's called Art and Science Laboratory, setup in Santa Fe. We have assembled almost thirty thousand pages. Now, what do you do with thirty thousand pages? You could fix five hundred pages. You can enter, over a year, maybe three thousand pages. But you cannot deal with thirty thousand. So we sent it to Czech Republic. And for nineteen hundred dollars, we get a first layer of this engine. So we type in Paik. "Pike", which is in Korean, Paik, you know, represents this kind of a word under which you can find anything in video that you ever thought about!!(Laughter) So when you click on Paik, it brought you three hundred kinds of words. Now we have certain problems, of course. Like, you know, people that enter Spanish, but in fact it's Portuguese. Anyway, what the search engine does, it first takes little headings, and it gets this into the database and searches all the

documents. It's really like Google, you know. I learned that from you. Last time you told me, "Look at Google." We get a photo with it, we get an article, and we get a group. I asked these Czechs, "Can you do it for nineteen hundred dollars?" and they said yeah.

This comes in two versions. One is called an RTF, which is Rich Text Format. So and that makes this whole archive readable. The second level, of course, is the actual TIF format, which we translate into PDF, and then you can page, PDF into bundles.

Our project is a little self-serving, because we have a tremendous amount of material that was sent to us, about our shows, for example. There are posters, with hand-written notes.

We have certain material which we don't know we have. (And it's always embarrassing because they send a letter, you know, "We came from New Jersey, it took us ten hours, and you weren't home." All that stuff.) But we did it by putting things through a toploader scanner. You know, you go to an auction and you ask, you know, forty dollar, fifty dollar scanner, and then you go and say— Something like that, nobody knows what it is. So you just put it on the top of it and it loads, in one time, fifty pages. And that's how you deal with the volume. These guys had to convert the OCR, which means Optical Character Recognition, when they scan all these pages. In Czech Republic, they had to load one time, three thousand pieces. That means they had to strung up, you know, the batching, the whole batches together, in order to get it economic. You cannot deal with thirty thousand — which is nothing, compared to millions that industry needs to scan daily. So we had only thirty thousand. We are three doing it, you know. There's a lady that does the entry and because all the men burn out; they burn out in six weeks! And so

eventually we kind of got it, after two years we somehow got it together. The rest of the paper will be processed there, but we're going to send them also the whole data for free.

So we have a couple of books here. The Eigenwelt--it's a cesspool for the Eigenwelt.

This was a book and laserdiscs that we did twelve years ago for this show in Austria called Ars Electronica. Let's look at Robert Moog. We've been visionary enough to take the music as a predecessor to the electronic imaging. All the tools that came later in some video synthesizers were, in fact, inherited: the quality of that predecessor, as voltage control and all these things. So we fluently incorporated, through David Dunn's essay with pictures.

So we have a couple of books. One is this Eigenwelt, which is a catalogue with laser bars going somewhere. We used to, I mean, twelve years ago, we made these bar codes on the catalogue that you got, and we have these stations that would kind of show pictures. We now have the pictures and movies elsewhere, but we are working on connecting them. It's going to be simple.

Gene Youngblood wrote a book, Expanded Cinema. Gene has kind of introduced this new era, which is a transition between the film and video, when film became a fluid medium for that. So we got this book. (He called his publisher and they said, "Well, what kind of a book?" And he said, "'Expanded Cinema', so could I have it?" "We don't even know what it is, you should have it." I think they sent him a little letter.) Now, this is the most visited book we have, because people actually got an idea that the book is essential

for someone who tries to speak about it or teach it. So it's been hit now too many times, and he probably wants it back, because he wants to make money on it. But of course, you know, you made him. And so I'm optimistic about publishing. If people need it, they'll get it. If they don't need it, they won't touch it.

So that's a vast directory of information, where the thirty-three thousand pages are. (There's also this famous complaint letter by Jane Brackage about the IRS. It's just unbelievable.)

This is called dynamic database access.

Anyway, these all contain something like three hundred items--from letters to everything about The Kitchen we had in our home. There is a second part to it, about the Electronic Arts Intermix, which we're going to try to extract and integrate as a perfect dialogue. Sometimes we need to reference a biography. Experimental Television Center, they have a nice biography there. You can click on biography, then click on anybody you need, then you get it. Let's get Paik into this business of serving the art here. And here we are, Paik is up there, and you get Paik, you know? Here it is. So anyway, it's beginning to go, so go back and let's get another sucker there, which is— Who is that? That's an early Video History Project. And who is that? That's Gigliotti. Let's get Gigliotti into it. Ok, go back, yeah, and go to early video project here. Ok, on its way. And anyway, this is our sponsor. And that— Anyway, if everything goes well, you could sort of get into. This is not for people that are not— kind of just want to be entertained. This is for people that

search for information. And at a certain level, when it's all apparatus— Ok, I should tell you one little sketch. You can't get them in, huh?

WOMAN: No. It was trying to get there...

VASULKA: I'm sorry. Well, it's alright. But anyway, any comments, maybe? Well. And... Oh, go, go. It's just next door, I think, to Manhattan here. (Laughter) Alright, ok. Oh. Oh, let's— oh, far beyond. So anyway, we are now getting material from other people. Now we have to construct a machine that takes the other people, what I call workbench, from— that's for the working. Then there'll be shelves for people that want to do nothing with it, just put it on a shelf. But I think that someone will take over this job. Because, I mean, it's enormously demanding to construct. Of course, it's much more difficult to present, as I see it, yeah? So in any case, thank you very much. Yeah.

VASULKA: Now, they got "Expanded Cinema", but they didn't put an address on it. If they put an address to us, as many other people do, they will get all the downloads possible. And this is all for free. People go from Australia to get downloads from Finland and everywhere. So anyway, so that's kind of our little episode. Because there's other activities of this Art and Science, but this is what I'm now into, but... Ok, that's probably enough. Thank you.

ALAIN DEPOCAS: It will be difficult to be as entertaining as Woody. But there are so many things linked between what I want to tell you and what Woody just showed, it's overwhelming. First, it's interesting to see that artists now, more than ever, are taking charge of not only their documentation, but also working on ways to make it accessible. This is, I think, one of the new features linked to a new media aspect of practices. It's very interesting.

So we do work with the same set of documents. Just as Woody explains, we do have the paper. It's not only paper. In fact, we also have many other types of documents from the Vasulka archive. But we work on very different levels. At the same time, it's completely complimentary. They complete each other. One thing that is different is that we are working on a different time perspective. I'm not just talking about their archive, but the whole collection of the documentation center at the Daniel Langlois Foundation. We really work with a long-term perspective. It seems simple to say, but it's not simple. It has many repercussions on how we work. My goal today is to explain what we are trying to do, what we are; and (since it's been two years now that we're collecting and organizing that document) where we are up to, and where we would like to be in the future.

First, of course, you already understood we are interested in a broader perspective than video art, per se. Video art is, of course, very important. We are mostly interested in pioneers in this domain. What we are trying to document is broader. We are not



preservation specialists either. What we do about preservation is help create and participate in research projects that lead to better practices. We also want to provide our user documentation about these research projects; the research projects themselves are objects for documentation. Regarding preservation issues, we strongly believe that documentation is one of the most important tools for the future. We already understood that for many types of art and many new media art--which contains more real interactive aspects. What I mean by real interactive is, not only the choice of three buttons, but power for the user, for the spectator to add something to a work of art. It means that it's not stable anymore; it's completely changing all the time. I think documentation in that perspective is even more important than before. We also are confronted by new types practices, which oblige us to imagine a new type of documentation. Joel was talking about how to preserve something that is a performance. Obviously, we need imagination to try many ways of documenting.

As I mentioned, we strongly believe that documentation is of great importance as a strategy of preservation for works of art using new technologies. The best preservation efforts will be insufficient without the support of a structured documentation.

Documentation of both the works and the context in which they evolved must be seen as a primordial factor of conservation. In fact, if we take into account the volatility, for example, of certain online projects, it is more than likely that in many cases, this documentation will soon be almost the only remaining trace of the work. What will give real value to a collection of digital art is documentation. Of course, you must have data

about it, contextualization, and of course also, guaranteed long-term access to that documentation. I will repeat myself many times, but the documentation that we are producing right now represents the same problem of preservation for the future. We are talking about preservation of works of art, but now more than ever, documentation are of the same type of technology. So they will represent the same problematic in the future. We also have to deal with a new, even more complex situation, which is created by the new digital documents and works. Once again, the example of the web is a good one. How to apply this data and other methodologically constraining documentary practices to an object that is not stable, that is changing all the time, evaluative, collaborative. For all these new types of objects, we need new documentary methods and tools. This is also an area where we want to develop expertise, and where we need to experiment a lot. Just by example, it might seem strange, but I think it's a good idea to try to document a net artwork with video. It's one of many different ways that might be interesting in the future, and if we don't try it now we will never know if it's a good way to preserve. But once again, if we do produce documentation about net art with video, there still remains the problem of the preservation of the videotape. So the problem is moving all the time.

I'll try to explain what we are doing at the documentation and research center. We've been open to the public since October of 2000, and that public is whatever you can imagine. They are artists, scholars, students, curators, both local and international. For two years, we have been trying to build a group of users. It's not easy at the beginning; we have to be well known, especially locally, because most people that come to the

documentation center are from the region of Montreal. Strangely, the interest is very international. But we need to build and to keep up a number of people that use our facilities locally. The goal of the documentation center is to cover the new media arts scene and to put this into historical perspective and contextualization. We are also assembling a documentation collection covering the last forty years. We have three levels of documentation. The first mandate, the most important mandate for us, is to cover as much as possible all of the projects that are funded by the foundation. This is obviously the main task we have to do. But we discovered very early on that it's not enough if we do not provide the user a contextualization, documentation of the context in which these works are evolving. Otherwise, in the future we won't be able to know why these works are important and significant. Then, if we broaden that to a larger perspective, we have to add the historical perspective because the actual context is difficult to interpret without knowledge of the past. There are so many so-called new things happening now that have deep roots in the past. It seems obvious, but a lot of people don't know about it. If they think about it, they don't have any resources to verify it. So a collection of documents from the last forty years--at least--is extremely important.

At the moment, we are still beginning the construction of the documentation collection. A large part of the collection is made up of usable types of documentation — paper — such as catalogues, books, periodicals, invitation cards, a lot of ephemerals, programs and other types of paper documents. Of course, the collection also includes a lot of videotapes, CD-ROMs and other types of digital documentation from various sources. In

fact, the sources of documents we have are multiple. One is all the documents that accompany the proposals. In the context of our programs, we receive a lot of proposals, and we ask people to keep the documentation that accompanies it. That's a major source of documents. Then we have a budget for regular acquisitions and magazine subscriptions. We have the third part, which is the acquisition of collection of documents and archives. These cover the more historical perspective of our collection.

We have a traditional type of collection--if we look at the format of the document. But we think the way we process that documentation is less traditional. The level of indexation, the development of the website, and the access to our database is where we try to be most innovative. It is true that high level processing would create an added value to our documentation collection. What we've developed is a database--a relational database--that is quite interesting. I do not have time to explain in detail, but let's just say it's composed of various modules, each having a specific task. One is about the document in general of all types; one is about individuals; one is about organizations; one about works of art; one about events. We also have modules that manage all the vocabulary necessary to describe contents. It is also completely bilingual, French and English, and it has a structure that is ready to accept other languages without a lot of technical problems. It still needs translation, of course.

I'll briefly describe the major collection we have at the moment. The first we've acquired is the collection built by Avery Fisher in Montreal. He was director of a festival in

Montreal called Image from, or of the Future. It's ran from '86, to about '95, so for about ten years. During that time they accumulated a very important collection of documents. They received a lot of documents from artists that would like to participate. They traveled a lot and accumulated catalogues from Japan, Europe--everywhere. This collection was the first large set of documents that we received and processed. It covers the eighties very well, and a lot of documents in that collection are already impossible to find elsewhere. Many small catalogues from the festivals that disappeared a long time ago— for us, that is very precious.

Then of course, there is the Vasulka archive, and I don't think we have to continue to explain to you what it is composed of. Woody did a very interesting overview. He mentioned paper, but as you figured, there is also many other types of documents in that collection. Understand that we are still processing—treating--the collection. The thing that takes a lot of time is indexing the contents of the documents, but when it's done, it is completely. It is complimentary to what Woody and Steina put online, because what they have put online is completely raw. That full-text engine is a wonderful tool, but it is also interesting to have a more structured set of data. I think they both work together. I like to think that there is not just one good way to organize information or index. I think a good system can function with very structured data and at the same time--on another level--something extremely subjective, or unorganized. Both systems can work together. I think users, like researchers, can use both systems adequately. In the end they go in the same direction.

We also acquired a smaller collection, which is quite important for us, from EAT. They are at the Getty, as you might know. It's obviously not the archives; what we have is all the published documents that they produced, and a collection of documents about their activities during the sixties, seventies, and eighties. In fact, that collection is one that they distributed in the beginning of the eighties. I think there are about six or seven full sets of documents that they distributed to places like the MOMA, Pompidou Center in Paris, and other places in the world. We learned that there was another full set available, and now it's in our collection. Once again, there is a large difference between how we process that collection and how other institutions process that collection. I know that if you make a search on the database interface of the MOMA library, you will find one single record for the collection. This is also something very interesting, to know that they have this collection. What we have done, which is the opposite way of treating a collection, is to create one record for every single document in the collection. There are over six hundred records in the database, and all are cross indexed. I think they are a wonderful tool for a researcher that would like to know what is possible to do with such a collection of documents. All these collections are linked together through the database, and they are all processed on the same level. After a certain time, they complement each other.

The last important documentation collection that we acquired is the ISEA documentation. This is quite incomplete because ISEA was organized every year or two years by different people in different cities. We have a complete archive of the event in Montreal

in 1995, because it stayed in Montreal; but we also have, depending on which years, a certain amount of documents. We are just now starting to process the collection. I think it will be very interesting when it is finished, because, it is already history, you know? It started in 1988, and is still an extraordinary event every two years. Through the collection, you can get a good idea of the evolution since it has already been fourteen years. For us, that documentation is utterly accessible. Accessibility is extremely important for us; what we want is to preserve the documents but also maintain their accessibility. This is not always the same. People tend to think if you keep the documents they will always be accessible, but that is not true. For example, a CD-ROM that we have in our collection was made for Macintosh in 1992. The programmer, probably not a professional, linked the speed of a rolling menu to the CPU speed. When we look at that CD-ROM in a new machine now, it goes extremely fast, and you cannot access the content. If the CD-ROM is very well preserved, you can still see all the images and the sound files and everything is there. But the intended way to access it is not there anymore. In order to access it the way it was designed, we would need to intervene or change some codes. We are already in the process of transforming an object to make it accessible to the future.

I'd like to maybe finish with an explanation of another of our activities. As I mentioned, we are interested in preservation research, and with that in mind, we recently started a partnership with the Guggenheim Museum about the variable media concept. About three or four years ago, Jon Ippolito started to conceive this idea of "variable media." It opened

a lot of new possibilities and is very interesting. I'll explain to you what our partnership with them involved this year, and will next year, but first—a few things about what variable media involves. One of its central issues is a questionnaire that was filled out by artists when their artwork was entered into the collection of a museum. The way that questionnaire is constructed, gives the artist an opportunity to explain the limitations, so an intervention by a conservator can still make the work accessible in the future. So this is one of the main features of the concept and it is certainly one that could change a lot of things in the future in the conservation world. It also proposes different preservation strategies that are linked to features that for the artists are the important aspects of the artwork. If an artist says that the only important thing in his artwork is the size of the image, well, ok. Or maybe it is the opposite. Somebody may have an art piece made of several television sets, and if these television sets ever stop working, it means the artwork does not exist. It's important to know it at first, you know? This year, with this partnership with the Guggenheim, we will develop that questionnaire and produce a database that will contain the results of interviews with artists. We also want to publish a small book, to be distributed to people we think should be aware of that concept and participate in its development. The book should be produced by the end of this year. It will contain the issues of variable media in detail, and will act as an important tool for letting people know about the concept. The final goal is to build a network of institutions that would like to participate. Participation essentially means adding something to it; for example, participating in the development of vocabulary used to describe some of the new types of effects that we'd like to explain. It means developing new types of words.



Next year we would also like to--with the help of other institutions truly network--to be able to publish something like a “best practice guide”. That will always be in development, of course, because new types of work will continue to exist and represent new challenges for preservation and for documentation.

QUESTION: I am curious about a couple things because you are both a foundation and a center. When you talk about the archive, are you--like the Vasulka collection-- scanning all of your documents? Is this your goal, or is your goal to have the ephemera and make sure it is not lost?

DEPOCAS: About the fact that the foundation is both a foundation and a documentation center, I should have said it at the beginning. Today, I explain to you what we are trying to do with the documentation center. It is true that it's important to mention we are also a founding institution, and being both is extremely positive. It really has a wonderful, tremendous result.

About the Vasulka archive, at the moment we do not scan a lot. We have projects to do, so for us, scanning is not a way to preserve. It might be on some occasions, but it is not a way to preserve, it is a way to give access to documents. More and more, we put large parts of digital documents online. A lot of our documents are published, like books and magazines; it is not our duty to put them online. So we have to select parts of our

collection that are either very rare, difficult to find, or that are meaningful enough to be online.

QUESTION: With the variable media and what you're doing with that, there are many of us who are very involved with the questions of what is a work of art when it is a media work? What is the future of these works? And the importance of getting this information down--particularly from the voice of the artist--because we're not going to have all these artists around. We're not going to be around either. So, with this publication, are you doing case studies? To me, that would be the most valuable: not to just have the terms, but to do case studies around real works of art.

DEPOCAS: I'm sorry I was very brief because of time. There will, of course, be case studies in the publication. We will do some this year or early next year, and we will do some test cases with one strategy of preservation for electronic (or at least digital) media, which is emulation--computer emulation. We will try to apply it to a certain number of works of art and we will do a workshop with the artists, computer specialists, maybe the public, because they would be able to try a different version of the same works of art, but under a different title of emulators. Then we can see where the differences are or if there are any--but I'm sure there will be.

QUESTION: Will you include some works that involve monitors in the case studies?

Monitors are becoming flat-screen.

DEPOCAS: I don't know at this moment what will be the case studies, but the first series will probably be about works that use computer and codes in general, and less about the physical aspect to it. But I understand--this question is also very important.

COMMENT: You present a nice summary of the topics we've addressed today: the preservation grid, Joel's sense of convergence, and Woody's Art and Science Laboratory. The topic that I'm seeing is the relationship between preservation and interpretation. It's not unlike the topic that we've identified for so long, the relationship between collection and exhibition or sharing. Now it seems to me this is a convergence, and there needs to be a careful consideration all of these topics together. It is not sufficient to talk about preservation in isolation, but always necessary to consider what the outcome might be—either interpretation or exhibition. Perhaps you, Joel and Woody would continue the discussion.

CHADABE: Do you mean keeping things alive?

COMMENT: Sure, that is an easy way to say it.

CHADABE: I view the two distinct types of media; that keeping a film alive or keeping a videotape alive is very different from keeping a performance or an installation alive, where there are presentations involved. I guess I haven't really thought of it exactly that

way. I think that festivals, conferences, and so on certainly keep films alive. The availability to have them available to people at home is very important, but essentially you're looking at them, so it's having a kind of library. Performances, however, are more of a problem because there is the element of production, and more of a context that has to be created. I think that the documentation around the event is extremely important, and as Alain was just saying, the context of it becomes extremely important. To think that in fifty years people will look back at some of these works of art, not knowing the artists at all, not knowing the people that talked about the artists, and will be wondering what it was. I remember writing about Gottfried Michael Koenig, a German composer who was very active in the Cologne Studio in the 1950s, and trying to put myself into his position in order to see the world as he saw it, to understand the innovative work that he was doing at the time. I remember all of the problems I had, from an American perspective looking at German art in the 1950s, thirty years earlier, forty years earlier. It was very, very difficult. I don't know how that can easily be done. What do you think?

VASULKA: I mean, in our case it was very clear that it is a parallel process. But we understood that if you apply to get into the archive, it may be more difficult at times to actually accommodate large informational paper. Of course, there are photographs and negatives. We want to give them all the slides, eventually, and all the releases, because it's a good place to have it--we couldn't find better. (We would do it even for free, because these guys are serious!) We can then publish anything electronically. For us, it's basically to index— or they index us, and it's theirs. It's a great advantage to have your

work there. Since we don't believe there is any market otherwise, that is a great vehicle for us. So it's luck. Now, we are facing two thousand hours of video. Fortunately, we met a streamer, you know, a professional streamer that streams commercials (an enlightened young industrialist) and he's going to stream any amount of material we give him. He's going to bring machines, you know, all kinds of stuff, and we're going to put it there and just stream it indifferently so to speak. So it's there. Then if someone indexes it, wants to have access to it, they can have an interview, or they can find the proper moment and simply play it for any reason. We're just trying to put together the second part. We will always be a parasite to the scholarly. Yet there's a lot of loose work around, which is exciting, interesting and in fact, endlessly creative. We have a tool project, and we get all these ideas about what happened, because we have also archived a lot of tools, but already other people have started sending us material which we can't process. Then there is another area which we're going to be working with, which is called the meta-scribers. Under editorial supervision, there are certain slots that people could have their work there permanently. So that could be indexed by other things. People are, in a way, complimentary system. All we need is a permanent system that doesn't disappear because some product goes off the shelf and then there's a hole. For us, the permanency of it is its survival. Otherwise, we have to start again. That we have a permanent system of indexing in this cyberspace is our concern.

CHADABE: The conveyance of context becomes more important in understanding what an artwork is about. As I see it, every artwork, what every artist does, is a reply. If you

don't know to what the reply is, it's very difficult to understand the artwork. That has a lot to do with the artistic context of the time in which the artwork is created. Sometimes I think of Thaddeus Cahill who invented the first synthesizer. His idea was to send electronic music out over telephone lines, when telephones were just being developed. His first version of this was finished in 1899; you can think of it as the first electronic musical instrument. People don't realize that there was hardly any electricity at the time. You could travel all over the country, and there were no automobiles on the roads. Here he is building an electronic music synthesizer! It is a fascinating aspect relating to the context of it. There is a wonderful story by Borges in a book called "Labyrinth"... Borges describes the life of a very successful young Parisian writer who decides to write Don Quixote. But he doesn't want to rewrite it by recreating the context of Cervantes; he wants to rewrite it from his perspective in Paris. So he writes it and at the end, in a brilliant bit of literature criticism, Borges compares identical paragraphs from Cervantes' "Don Quixote" in that context, and Pierre Menard's "Don Quixote", in the context of modern day Paris, and comes up with completely different interpretations, completely different meanings to identical passages. I recommend the book entirely; I use that story as an example for students, about taking styles or artistic ideas and putting them in completely different historical contexts. Almost everything we produce is a result of our time. It is an historical imperative. It happens now because of things that happen now, and we are replying to things that happen now. In twenty years, when people look back on it, I fear that they'll mostly miss the point if they don't understand exactly what that context was. So to preserve the work itself, without an understanding of the context, is

only half the job. I'm not sure how to do it. The problem of preservation as a whole—not only to cultural history—makes it all the more difficult. There are simply not enough financial resources available to handle—with any degree of wisdom or of completing—the archiving that represents a huge amount of our recent cultural history. I fear the tapes are degenerating and there are serious, emergency problems going on. There is simply not enough money available to do it or to understand how to convey the cultural history of something. I don't know how one would do that. Would you do it through interviews, through news broadcast type of thing? I'm not sure how you could easily convey that to the future, along with the artwork. It is like there are two messages involved. You know, it's like you walk up to someone and say, "Hello, you sonofabitch," and clap them on the back of the shoulder. One message is what you're saying, and the other message is how to take it. We often convey only one message, leaving things up to a lot of misunderstandings.

COMMENT: I was going to say there's what the artist feels the work is, and then there's what the historians or the critics, curators, and cultural historians think the work is in the context. You actually need both. They either jibe or they don't. But if you only have one without the other, you may not have the full picture.

QUESTION: I want to ask a question about the documentation center, because I think that perspective is a central question: how and what your strategy is for collecting documentation. I thought I heard you say you were collecting documentation on projects

that you've funded. Are you also looking for other types of documentation? Are you soliciting it, or trying to map out a kind of history of a space?

DEPOCAS: When I described the various sources of documents, I think it explained what we're trying to do. There are documents that come with proposals that give us an idea — though never complete— of what the main issues this year, last year, and the very in the present. Then, through the budget for acquisition of new books, we also try to cover what's available concerning the actual thing, and the past, also. Then there is also the acquisition of special collections. In this area, we try to know what is available. Some people approach us or we approach some people, this is how we try to start it because, we are just beginning; it's only two years old. At the beginning of the adventure, there are so many fundamental types of documents that we don't have now that it's not a difficult part at the start. What will be difficult in the future will be to pinpoint, to complete the collection, without having too many overlaps and things like that. At the end of the process, constructing such a collection is partly scientific, and very cold, but there are also many chances--serendipity and things like that--and also some subjectivity that is probably not avoidable.

DARA MEYERS-KINGSLEY: I wanted to ask whether or not the questionnaire that's being developed by the Variable Media project is going to be available to all. Will it be a public domain document like the living will?



DEPOCAS: Yes, absolutely [to both questions]. It will have various states. On the web, people will be able to try it and see how it's structured. They will be able to download an NT version of the database containing the interface of the questionnaire, so that they can fill it in themselves and print the results and have it for themselves. Then members of the network will be able to reduce it and share the information. A certain level of information will probably stay private, but most of it will be shared between the members of the network, and part of it to the public, also. We have to show the people what the result is of filling out the questionnaire, so they understand its importance. Yes, it will be available, at different levels of interface.

QUESTION: You mentioned it's going to be shared in a network; what is that network?

DEPOCAS: Anybody would be able to download the database--absolutely anybody. But to use it for the day-to-day work in collections management, they will have to be part of the network that we will try to organize this year and next year. We don't yet have what it will imply to be a member. But as I was explaining briefly before, it will be like a shared work. Price of entry won't be money; it will be investment by research, or at least an attempt to implement the questionnaire in day-to-day practice and to participate in the development of the best practice guide.

CAROLE LAZIO: Maybe you could tell us how what you're doing relates to what the Guggenheim is doing with Rhizome. They're talking about putting the questionnaire up on their website. So there's some relationship between—

DEPOCAS: Rhizome will certainly be a member of the network. Rhizome has a subset of the questionnaire, more focused on net art. It is mainly the same concept. It is completely linked. Of course, they will help us tremendously to develop the part of the questionnaire that is about net art and recent aspects of net art.

QUESTION: Are the other members mostly museums?

DEPOCAS: For the moment, there are no official members. We know who is very interested. It's something that will have to be developed.

VASULKA: You see— I'm sorry to interrupt. There is such a passion here because, after all, you are searching to a certain set of systems and kind of a definition of it. There is something wild outside as well, but I don't mean wild. The idea is one of having input from people who are still alive. There are testimonies of this era, as far as the electronic. These people are very much eager to send material somewhere. You will not be able to contain it all. Look at the people in Binghamton. They already had this and gave us information for years. We plan the same kind of participatory system, so to speak, hoping there will be a much broader place for all of what we are talking about. It is probably

true, but may not be because after all, you may be the most prestigious, see? Then the prestige drives people— donation of information— because they believe the prestigious part of the community may just be the most important ones.

QUESTION: I want to approach this from another angle. I can look around this room and see there are probably two hundred thousand documents, at least, that are mapping a large segment of the media arts field in the United States. I know in my own office, I have thousands and thousands of documents and I worry about what's going to happen to all that material. Having spent twenty-five years accumulating it, I want to make sure that it all goes someplace where it will be accessible, where it will be a mapping of not just my work, but the different ways all of us have worked together for twenty-five years. My question is, are you accepting documentation from other people? Do you view yourself as a repository for information on the media and electronic art?

DEPOCAS: That's a big question, of course. We don't have resources to accept all the documentation, and I don't see why there will be just one place for all the documentation. We ought to be just a model, so that other types of archives exist too. We don't pretend to be able, even in the future, to deal with such a tremendous number of documents. It's impossible. We have more and more people come and propose things, and it started to be difficult to deal with what we can accept and what we cannot accept. It's coming much earlier than we were expecting, in fact. We were thinking that for at least the first five or ten years, we would not be well known enough or have the reputation so that people

would come already, which is now the case. I don't have a very precise answer, but of course, we are perceiving that it's a major issue.

CHADABE: I'd like to point out that if all of those documents were collected, decentralized or centralized, the big problem becomes one of access. That is, even if they're all catalogued on the web, how do you look through two hundred thousand listings and decide which one you want to look at? There has to be different layers of access: that is, there is the raw data, then there are various levels of interpretation of it, until finally it comes out. You can get to some subject matter, reasonably quickly, that you're interested in.

VASULKA: I believe it's going to be mechanized. You see, the machines, they are the only tools that could look at these things. They have to be intelligent enough to lead you to the information. We found out by mass scanning that eventually, you have to put another mechanized system to deconstruct it. We just have names, locations, time, certain context; but it can be put together by intelligent sort of—not intelligence machine, because it was so much discredited. But there is going to be a construction sort of engine that will take care of that.

BARBARA LONDON: At MOMA we have our department of film and media. We're in the middle of this big renovation project. Part of our five year plan is to, when we reopen, have a study center that is the best. I'm trying to fund raise now to fill in the gaps, not

only in the collection to have the tapes and the installations, but to also have the ephemera and the books--to fill in a lot of those gaps.

COMMENT: All of us are facing this. I get calls from the archivist at the Art Institute of Chicago and she says, "Don't throw out one single piece of paper." So I don't throw any paper out. But even if we give it all to them, they're not the places that are going to really appreciate

SHERRY MILLER HOCKING: I'd like to thank the three of you for bringing up all of these issues, which I personally am very interested in, but I think are also really important and oftentimes not talked about--within our community, certainly.

LUKE HONES: It might be best for me is to talk personally and summarize my experiences here. First, it has been very exciting seeing many people again. I have been out of video preservation, actually doing the work, for about three years, and pursuing other interests. It was great being on the panel with the folks from BAVC and seeing all the great work they are still doing, and seeing that there is still that inspiration to continue working on this project.

It was also interesting discussing the economic issues, and hearing a lot of the same things coming up. In as much as we tried to make our process efficient and create a system that would work relatively consistently, there is still a price barrier for a lot of people. I heard Kate mention that the Media Arts Center wanted to be empowered; but having been from there, I would maintain that working with BAVC is part of that empowerment, because we are cut from the same cloth. But I'd say I'm fully behind empowerment, and including the entire community in the discussion to come up with the solutions.

It's always interesting hearing about media formats; it's definitely something we have to worry about. In talking with Mona about the media formats over the last few days, it is interesting to realize what a real muddy quagmire this can become — especially in the preservation world. What people often do is go out and shoot whatever they can afford. That may mean Digital 8, not even the DV or D formats that were mentioned, but something that is inexpensive and provides quality. Formats can be a real Achilles heel. When Sarah gave her presentation I leaned over to Mona and said, "This is very

exciting.” Often, when we who actually transfer the material go to conservation meetings, we hear about the need to be more specific and document things. It’s great to have someone as knowledgeable as Sarah come up with a sheet and say “Here’s how we do it.” I sat on a jury about six months. The sheet reminded me a lot of what forensics scientists do, as far as defining certain things. It was very exciting.

It’s also exciting to know that in the work we are doing, there seems to be people moving forward, and on a lot of different paths. When we were talking about coming up to do this final discussion, one thing Sherry kept emphasizing was that we needed to not only talk about the preservation of tape, but also the documentation - what kind of world this really was, who the people were, and the different types of documentation that surrounded the makings these tapes. As I say, spinning tapes, we may not always think about this but it is clear that this as a very important part, as is possible.

Now, thinking about the last two days, we have to decide what we want to do next. I’ll now ask Dara to discuss the different issues we saw, and broadly outline what we can do next.

DARA MYERS KINGSLEY: I want to thank everyone here for what they have shared: Sarah having her priorities sheet; BAVC giving their financial accounting, and also giving the ins and outs of what a piece of what equipment costs and how to use them. I think it’s really critical that we continue to share, because we are all working toward the same goal. It is nice to be amongst people working together, and I want to thank you.

There is a lot more work to be done. I made a list of the types of constituents that attended today and yesterday — the universities, conservators, technicians, artists, funders, distributors, exhibitors, museums, archivists, media arts centers, preservation consultants, and postproduction facilities. That is who is here. If we expanded our reach to seventy, ninety, a hundred! I think that's one of the things we want to do, plan to expand beyond just the small central community of media arts; but learn from our professional colleagues in the library, archivist, museum and conservator worlds. I think that's part of the road ahead.

I considered this a broad outline of the areas we've tackled over the last two days. In terms of the physical process of preservation, I know there were questions that came up about the research needed in collections management, cataloguing, prioritizing. Finding out where the resources and tools are for preservation work, and the expertise so that the tools can be used either for preservation and/or for production. That includes the tape and the different media: the machines, equipment, the documentation. The expertise should exist in those two areas.

How can we increase our information sharing for the purpose of connecting to the next generation, who may not know this work or these artists and issues. Also sharing information about who has what. How do we amongst each other, and in these giant collections around the country and around the world, share where the materials are, where the expertise is? As I said, expanding constituencies to share expertise across disciplines.



HONES: That's how we broadly broke down the topics that seem to demand a next step. It would be an effective use of our time for tomorrow, next month and the coming year, to come up with some actions out of this discussion and brainstorm about these different areas.

KINGSLEY: Some questions may be: What research needs to be done? What questions do we need to ask? What are the strategies and who should do it? Who can tackle some part of this giant puzzle? Also, we should prioritize what needs to be done. What's the most critical thing? Mona mentioned maybe we should all go to Beta SP. Should we choose something like a format? Do we want to come up with an idea of making sure we have a union catalogue of everybody's collections? Should we make sure we have a database of all experts in how to run every piece of equipment? Should we get oral histories from every living artist in everybody's collection? I mean, yikes--but tell me!

HONES: As the first brainstorming point, one of the exciting things that has come out of this weekend is a lot of the discussion that I've had, not only with Jon and the folks at BAVC, but especially with Bill Etra; talking about how to make the act of transferring a tape and getting the tape to someplace else less invasive, less destructive. One of the things I threw out yesterday was the idea of this duplicating machine, where you can make a duplicate of a tape without having to run it through a tape machine. So Bill went on the web and grabbed information on it; there are already discussions going on among

people who are very interested in the technical side of things, and where we can take that process.

MEYERS-KINGSLEY: Another conversation I had was with Tony Bannon, from Eastman House, who talked about the fact that he has a collection of equipment, spanning the beginning of photographic and film history, whether or not he could continue to add to that collection, to bring in other types of media equipment. That wouldn't take care of the access to the equipment and using it for parts, but we would have at least have a study collection of every piece of equipment, with manuals. Maybe, we could create video training tapes on how to use the equipment, so there would at least be some source for that.

SARAH STAUDERMAN: I have two additions or addenda to the list. We need to raise the consciousness of the funding community, wherever they may be, about this need. It's been easily seven years since the publication of *Magnetic Media: Storage and Handling*. The group that authored this, CLIR, has moved on to web-based research issues; they have not left it behind, but have said "We raised the issue; now where are other people coming to the table on it?" It will be critical for people who need to get funding to not have to explain themselves over and over again.

Another thing that might be a useful product of the conference would be to actually do an assessment or status report of where we are on several of these initiatives. I'm not the only person who knows about various initiatives, such as the Variable Media Initiative;

where are they in their process, and what are they doing? What is the status of the DVD that BAVC is working on, or the status of IPI research? What groups are out there actually looking at this? We don't want to reinvent the wheel. Who are the people that know what's happening and where--the connectors? We all know a little piece of it, but we definitely need to throw this into the ring: this is a bright person working on these issues, for instance they're focusing on prioritization. This is a bright person and they are focusing on the lost videotapes of the early seventies. I'm expanding on what Dara was saying: Who knows what? We need to have lists of that.

KINGSLEY: How do we do this? IMAP, for example, would be happy to take on an initiative — and it's something I've been thinking about. Since we are the sort of bridge to the various communities— Do we need a roundtable? Do we need an interview? Do we need someone to actually go out and prepare a report on the field for all of us? We can either all get together, or someone can go do the interviews and report. Sounds like we may need a report; we don't necessarily all have to meet. So that's something that could definitely happen.

KATE HORSFIELD: I would add, because this is certainly a priority, a lot of us are really interested in how we're going to pass this information on to the next generation. Heather was talking about something I found enormously interesting, which was to create a kind of catalogue of sort of like tape defects. And what's the difference between a tape defect and the normal look of a 1970s tape? Even in my office, the younger generation

look at these tapes and they don't know. If they see yellow streaks across it, they think that's what all seventies tapes look like. I think we need to really concentrate on how we're going to educate and pull new people into this dialogue. You know, we are doing our share, but we need more people to help us at this point.

KINGSLEY: I would say that would be a place where conservators working with us could write this up. First of all, people don't even know what a certain kind of tape looks like, as Sarah was saying. "Well, it's kind of this big and that small," or whatever. But also, how do you know by looking if there's anything wrong with the tape, the physical object? How do you know what the tape should look like—correctly—in playing back? Those two areas need some study.

HORSFIELD: NYU just started a whole preservation program in their Cinema Studies department. It would be great to lobby some of the universities and say, "Let's get some interns out there in the field," so they can come to all of our spaces and spend two months — and incidentally, be slaves for us for three months! But then they come out of it with a greater understanding of what the problems of the seventies, the tapes, and of cleaning, and transferring to a more stable format.

HONES: And they've gotten to rub shoulders with legends. They should be paying us. I wanted to add one of the things I was talking to Kate about this weekend is, after going to a BAVC presentation of video art and collections from the seventies, and after seeing

Kate's presentation, one of my staff people in an exhibition space was very interested in doing a program that combines, or somehow mixes the material from the seventies, the activism from the seventies, with current activist video — which is what we're showing at our screening space. We have a very diverse, very young audience. And they are very, very excited about hooking in with what the Video Databank has.

KIM TOMCZAK: Just as information, the NAMAC just completed the video preservations log, one of their ongoing projects. A summary, which will come out in a NAMAC newsletter, really echoes most of what we've discussed these last couple of days. That summary is by Chris Kennedy from the V-Tape office. Perhaps we could use NAMAC as dissemination of the information, and certainly as part of the tool. Also, maybe NAMAC can be assigned, or suggested to, that they do a survey of all the centers that have working equipment. Give them that task. "Do you have an open reel machine that works at your center?" Then start a catalogue--that would be beautiful.

HONES: One thing I'd be glad to do is offer the experience that we have at ATA, working with online surveys and developing online database systems to gather some of this information.

HORSFIELD: For any of you who are NAMAC members, this is a really good week to call up the national office and say that we've had this meeting and that we are very concerned about issues of preservation. They are planning the national conference in

October; the text is not locked on that conference and all of us who are interested in preservation that are also on the board, could use some assistance by saying, "This is the number one priority."

COMMENT: For the past few years, there has been a lot of interest at NAMAC in educational issues. I think this is a moment for us to think about where the intersections are. What really impressed me at this meeting is the notion of the ephemera, and providing context. It would be good if we did some modeling, or reaching out around the media education side (which seems to be a very active part of what's been happening at NAMAC), to see if we could forge connections between preservation issues and things we know are the first and second topics that come up at that national conference. It might give a spin so it is not a segregated discussion about preservation, but an attempt to at least figure out a piece of this discussion, so there is a broader affinity.

CAROLE LAZIO: Is there a published list anywhere, of the research, and that scientific research we would like to have done on preservation issues? I know there is intensive work being done in the EU for their archival research. Sarah has a list of things she would like to see investigated. I really don't think we should drop that ball, as far as publishing what we think needs to be researched, and getting that to the organizations that could do it. Another question I have is, is any organization meeting with the people who, for example, are still manufacturing BETA SP decks, and trying to sort of encourage them to

maintain these as long as possible? Is there a movement to try and do something about maintaining the equipment we seem to be fastening on?

BILL ETRA: I've done a lot of work with developing products. The first thing we need, if we want to develop a product that's going to preserve tapes...what we need first is a wish list, so a simple thing for people to do is go back and make their list of what they'd really want it to do. Then, people who are looking into hardware and other matters and procedure, have some idea of what the consumers--the people who have things that have to be translated and preserved--in the group really want. That wish list is something that's needed, or otherwise the hubris of the engineer will come in and will build something that looks like a wonderful toy but doesn't do what you want. I'd strongly suggest that somebody organize a wish list that specifies what they want preservation to do. Don't worry whether or not it's possible, just worry about what you'd ultimately like to have happen with preserving archives. Don't worry about how it gets done; the first step is to define what you want done.

HONES: That would be an interesting thing to see expanding on the ETC site.

ETRA: In addition to the wish list, we could start writing a manual to say how we might go about doing it. Then we can look at getting the hardware and other things together to actually do it. That way we would come up with something that is useful to everybody. If

you don't put in your wish list now, what you will get is some horrible system that does not do what you want.

HONES: And the thing is right now, the half inch open reel tape deck plays back the tape but it's not at all friendly to the tape.

ETRA: I'm sure everybody here has something they really wish they could do, but that they can't; we need that input.

SARAH STAUDERMAN: You are right; you should imagine a world of what preservation can do. Don't limit yourself to what you *think* it can do. One thing left out of all of our discussion, because it's gnarly and strange, is the concept of ethics in the preservation or restoration. We do need to look at the standards that are out there for ethical practices with these materials. That would be another working group.

HONES: I'm curious if there are ethical standards for new material, now published?

STAUDERMAN: Well, there are ethical standards published by the American Institute for Conservation on standards of practice. There's probably an ethical code at AMIA, but I don't recall seeing it. Whenever you're dealing with an alteration of original cultural property, you run a risk of going beyond the line of what is considered ethical. What is it within moving images? In general, the moving image world does not have ethical



guidelines for practice. Some things that happen within moving images may be ethical, but I'm a little weirded out by it sometimes. Is it ok to lose a frame? Is it all right to touch up little parts of a frame, because you have the ability, so the output will then be altered from the original? Maybe it is ok. Maybe you just need to know where that line is, and we don't. It may be too soon, I don't know.

HONES: I know that, having working at the BAVC preservation site, we certainly try to be as sensitive as possible. But our ethical standards are our own ethical standards. I think that is something that needs to come from conservators and disciplines that actually have more matured ethical standards.

BILL SEERY: When Joel Chadabe was speaking before, I was thinking about installations, especially when they're remounting them these days. You often see a façade of what was twenty, thirty years ago, but the mechanics--the guts behind it--are modern technology. Where Vito Acconci, let's say, had two Revox tape recorders, those Revox tape recorders are there; they're spooling tape, but there's nothing on the tape, and you're not the hearing sound from that tape. There is a CD player, an MP3 player hidden somewhere else. Those are the interesting issues that are coming up. As an aside to what Sarah was saying, these kinds of ethical issues are coming up and. It is even more compounded since you are not dealing with somebody who lived five hundred years ago, and you're not restoring a painting or a sculpture; it is a living artist with an opinion about how something should be remounted.

ETRA: One of the things we've discussed is also preparing a way, a discussion—what Steina's been doing, some of the playing I've been doing with my own tapes, to be published, so that independent artists who have a Mac or a PC will get some information about what is the easiest way of getting their own stuff in, so they can make the changes. I don't know if that is an ethical thing. You may not want the artist to be redoing their work either. Somebody has to sit and write a proposed ethic, and then everybody has to input their thoughts. Until we get some of that information as to what people want, we're shooting at impossible targets--or no targets at all.

PIP LAURENSEN: I feel I ought to say something at this point about what I'm doing, though that is a horrible thing because then people expect something to happen shortly. I've embarked on a four-year research project; it's got two strands. One is on management issues for time-base media and it is covering installation works, predominantly in film, video, slide, audio, and then web. The other side of it deals specifically with conservation. There are six conservation case studies, from which a strategy I am developing will follow. I've been working in time-based media preservation since '92 and I've been slowly working on a strategy that basically belongs to the context of conservation. The first part is what we call data registration, working out what you have the issues about how we document the installations. Then, looking at the role of those elements in relation to the artwork as a whole, the various types of risks involved reinstalling those installations in the future, and developing appropriate conservation

strategies. I'm hoping to produce a handbook, and in terms of how I want it to develop, I'm hoping various sites will host certain elements, so that people will provide input and we can actually come up with something with a fair amount of consensus. Some of it is going to be nitty-gritty, to do with how you sort and label things; a lot of it will just deal with how we can approach it in a fairly systematic way. The time frame is four years.

LISA STEELE: This may be completely off topic. But if we are talking about artworks, in addition to preservation in a more abstract way, there are a issues we are not really dealing with. One is aesthetics. It is not just about having a handbook of what a glitch looks like, not just talking about the politics, but the aesthetics of early video. I don't think it's very popular, but it needs to be done.

The other thing is when we talk about the art world we are also talking about the emergence of the private dealers. There's a whole system. That is happening to a lesser degree to us in Canada, but in the UK and the U.S. it is spreading like wildfire. These are artists whose works— for all intents and purposes — are out of public access, except through private dealers. The accessibility of a Pipilotti Rist or these people (within the educational system) is inaccessible now. They are removed from all these discussions around preservation. It remains to be seen how committed private dealers are to these works as artworks, not simply as works of commercial exchange.

BARBARA LONDON: This is to follow up on a conversation I had with a couple of people including Lisa and Kim. A week ago, I got a call from somebody. There's an artist

who has been very active in the early days, and was racing ahead, thinking: Could I edition on the work? This is work that was out in the market, distributed by my colleagues here in the room. Of course, I have had long conversations with Martha Rossler about her work being represented by a dealer. So Martha, like Nam June and all kinds of people at the very beginning, it was two hundred and fifty dollars, and you just make a copy as the university or whoever wanted to buy it. Unlimited.

MONA: Sherry and I have talked about doing interviews with the inventors and developers of early tools, and making them available: artist instruments, devices, one-of-a-kind devices, and so on.

HORSFIELD: I support that idea. I think that many of us here have been very involved with documentation, but there are big holes in our collections. One of the things is that it's easy to get information on very well known artists. Bill Etra and I were just talking about how it's almost impossible to get this infrastructure. We need to create, in some way, a snapshot of the development of our field that doesn't just include famous artists, but also includes the people who were innovators or who created a kind of infrastructure that artists used in their work. That could be tool builders; it could be people who invented the internet, or early computers. I think my fear right now is that the gallery system has appropriated so much of video, that all of us -- to one extent or another-- are threatened to be wiped out by their reinvention and recontextualization of video history.

We need to be active in terms of keeping some of the less popular, but equally important ideas, alive that have come out of the thirty-five year history of our field.

SHERRY MILLER-HOCKING: One thing I was really excited about, was when Woody agreed to come, and that the Langlois Foundation presented the work they are doing. Some of the stuff that we've been doing speaks to what Kate has talked about--that the context can emerge from the data. Maybe I'm misusing the term, but one of the things I find when I look at Woody's site, or when I work on our site, is that when you start a search on a particular name (with our site, you can also search by a particular year), you begin to sense a context. The context appears from the data. That is one of the reasons that this is my love - this is my area. I'm interested in tape preservation, and I certainly see the importance in that. But I think that context will emerge, as we collectively work on these types of data structures and sort these kinds of issues out. I fully support Woody, and many other people's issue here with public access to that information, and I totally agree with Woody that the internet is the place. He and I may get into trouble on our sites with copyright issues sometimes; we are both struggling with that issue and getting permissions for reprinting, and those are a whole other set of problems and issues that we as a field need to sort out. But I'm a real believer that the context will appear as this data is presented and is made accessible to people — taking it out of our attics and basements and offices, and putting it up there.

ETRA: We are generating more data. Every time somebody logs on to one of these websites and starts going through the information, if we have the foresight, we begin to store the what they are looked at and in what context. Maybe we could even give them something to (voluntarily) fill out that says what they were looking at. Then we can begin to produce a much bigger index, a much more useful index that says, "This was valuable to somebody doing research, and should therefore be added to the header of things that brings or looks it up." The information in a database should grow and become more useful as more people access it— which is talking about a very difficult concept, a heuristic databases, but it is possible.

WOODY VASULKA: An even bigger issue comes up with the streaming. (We have a maestro streamer here with us; unfortunately he just came, but he's the gentleman I was saying can stream endlessly because he has the capacity.) Would you tell us something about how you came up with this concept of streaming all the art ever made all the time?

DANIEL SUMMER: Daniel Summer, with Digital Video Laboratories. Well, I think that might be overstating our vision of this a bit, but I certainly think the internet has the potential to realize what many folks thought cable television could have been back in the seventies, had Public Television emerged, for instance. Although we have to remember the internet started as a military technology, it is unstoppable and very pervasive. The utilization by artists is a terrific thing. At least to whatever degree my organization can, making that accessible and usable to artists so they get content out, will be an effort that

we will certainly do everything we can do to contribute to. There are a number of projects. There's an Internet Archive project that I believe is funded by the government that has amassed a large collection of films. They now have volumes and volumes of data and very important films that came from the turn of the last century up to now. The possibility exists to have very sizable libraries of television quality video available. The questions of copyright that we're looking at will hopefully play themselves out. I think the more art that goes on the net, the better we will all be for it. As Woody mentioned, we are undertaking a pretty significant effort to pretty much take all the art that we can, and get it on the net. And where it goes from there and how that evolves, will hopefully be an interesting, useful thing.

DV Labs, the company I've started, is a commercial organization. We are essentially a broadcaster of video on the internet. For the most part, our core business is taking commercial material and distributing it for independent organizations. At our peak, we have delivered thirty-two and a half million video clips over the course of a month. That is a lot of video. That basically shows the internet is a viable means of distributing video, and there is a large audience that can access video through the internet. The project that Woody, Steina and myself are discussing now is something that I guess would fit into the category of a not for profit venture for DV Labs; hopefully, it will be something that more organizations can be involved with and have some participation in, get some use from... Who pays? That's a very good question. Digital Video Labs will work on maintaining the archive and the distribution, so long as it doesn't bankrupt us. So we'll be

working not to go bankrupt. A good question is, does anybody get paid in the distribution of media? Because right now, the only person that's paying is the person pushing it out.

KINGSLEY: Luke was just asking, if there is any point at which we should go into action plans? If anybody has any other ideas, then it might be good if we got into how you actually move these issues forward.

ETRA: All of the early work of mine that isn't owned by anyone else, and that I have the rights to, I am putting up without expecting money to come to me from his site.

Eventually it will be available at full resolution for free to anyone who wants it. The reason is I'd rather see that happen than for it to disappear forever. Now, can there be things worked into this context, where the artists get paid? I certainly hope so. But right now, I think it's better to be out on the internet for free than sitting in a very small apartment in Jersey in stacks.

LORI ZIPPAY: I wanted to say a quick word pertaining to the idea of educational access, and the link between preservation, getting the material out there and having it accessible, and linking the past to the present and the future. One project we're working on at EAI (the catalyst was our thirtieth anniversary) is called *A Kinetic History: EAI Archives Online*. What we've been doing over the past year — and it's going to be a long, long process—is taking our massive archive of ephemeral material from thirty years of EAI history and beyond. This is going back to the Howard Wise Gallery or Kinetic



Art, where many artists who we all know as pioneers initially showed work. It is where the *TV as a Creative Medium* exhibition was set up. In the early years, EAI was a sponsor of projects like the first computer arts festivals, the first women's video festivals, the Open Circuits conference, the Perception Collective. A lot of it was funneled through EAI as a sponsor. We also have those archives in-house, so what we've been doing is scanning and inventorying the materials. We have been doing the essays around the materials, for contextual information. We have devised an online web project with Kinetic History, eight chapters. I hope by the end of this month we will soft launch the first chapter, which is about *TV as a Creative Medium* and the Howard Wise Gallery. It will be continuing, probably in perpetuity. It was kind of what was said about taking this material out of our dusty archives making it accessible online. Because we are a small organization, it is not our primary function; it will happen very slowly, because we're doing most of it in-house. But it's something that we just feel is important, for all the reasons that have come up: education, access, the idea that this history will be lost, that it's also being co-opted by other areas right now. It is nice to be able to say, "Listen, in as much as we can, we will take responsibility for it." That's not our primary function as an organization, but we need to get this history out there and we're trying to do it in-house, through this on-line project.

MEYERS-KINGSLEY: Sounds like, though, really, that's the kind of project that could use archival interns or archivists, who hopefully, will be coming into our field at some point.

COMMENT: The new initiative by the Standby program and Mercer Media called Artstream is similar. We are working with arts organizations to get their older information and catalogs online, such as Art and Science, their documentation from panels and lectures, and Franklin Furnace.

ETRA: One way artists could be paid would be to request that if anybody really wanted contact the artist and get a CD or a DV or a video. I think you'll find that people are going to steal it, if they want to steal it. Once it's on the net, it's vulnerable to being stolen in any reasonable form, and hopefully certain people will order videotapes, CDs, from the artist.

HONES: The time for talking is over--the time for action is here! I mean, that's what I'd like to see come out of here; those of us from San Francisco came to New York and we want to see some action, we want to see some things happen! I know you all do, too, so what is the best way to organize this? I guess we set priorities from this list and give out some assignments or have some people volunteer.

COMMENT: If there are a lot of ideas, different people might want to work on something that's up there anyway, regardless. One of the things I think Sherry and I hope is that we will be able to produce a report from this; the more concrete we can be, the

clearer we can be about what we really want to accomplish, the better off we will be in terms of getting resources for these projects. We can do a laundry lists, and that's fine, but it's always good to prioritize a little.

KIM TOMCZAC: We should de-localize the problem because it's an international problem. There's a project that was completed about a year ago in Amsterdam, where they took the entire collection of several organizations, Monte Video and Time Based Arts (which folded together a number of years ago), and they archived the entire collection. The Netherlands had a project called The Year of Archiving, or something like that, and they threw in several million dollars, and they did this whole project at once. We should investigate that since they've already done it — not reinvent the wheel— and see how they did it and if other countries are advanced in this area. I can tell you that Canada is far behind in this--

MONA JIMENEZ: I was just trying to convince someone with some money to give me some travel funds, so I can find out what's going on around the world. That would be great! It wasn't on our list, but we can certainly add it: international research; what are the best practices, internationally.

HONES: Is there any way of breaking this down into bite sized chunks? We have technical issues to deal with, in both cleaning and transferring tapes and what to transfer to.

JIMENEZ: There seems to be a lot about publishing, and that's a technical issue in terms of information.

PIP LAURENSEN: Something we're trying with BAVC's fabulous DVD project is looking at the issue of cleaning and what different research is happening, and different practice. What we're trying is like having a number of conversations with a small group, and collating what we thought people were doing and who we should talk to; then clarify where we were, and open it up to a wider audience for further input--sort of build on tiers so that we reach a sense of consensus about specific issue and where we wanted to go next. I'm trying to coordinate this specifically for cleaning, and I'll report back on how well this works as a strategy. E-mail seems to be a very nice way of doing this, having small discussion.

HONES: It's good that it's with this group; there is a number of people who'll be contacting you because they're interested in discussing it.

JIMENEZ: I'm wondering if this group wants to continue to communicate, if it could possibly be through the IMAP LISTSERV since it is set up and a lot of people are already on it. Other people could just join the LISTSERV, and maybe that would be a place this discussion can continue.

MILLER-HOCKING: I think that's a wise way to go about it since it's unrealistic for us, in five minutes, to even come up with a beginning of an action plan. It really needs consideration and I know from my point of view, my head works a lot better if I give it a bit of space. So I would be definitely in favor of trying to put something like that together.

STEELE: I think Jim or someone mentioned earlier the union catalogue. Where is that?

JIMENEZ: IMAP has a standard cataloguing template online; I don't think there is a union catalogue at this point.

JIM HUBBARD: It doesn't exist yet; our tentative timeline is that we will start work on it by the end of the year.

MEYERS-KINGSLEY: We are researching the appropriate data structures, databases, and the structure for this pilot union catalogue; fund raising to be able to, once we know what structures we're going to put in place, choose three to five groups from amongst the organizations and artists using our template. By next year we are actually going to create a pilot and try it out online, so it's in process.

JIMENEZ: I have a suggestion that this information be typed and posted on the IMAP LISTSERV; so that folks can e-mail IMAP — [imap@imappreserve.org](mailto:imap@imappreserve.org) — and get

instructions for how to join the LISTSERV. Then this information will be on the LISTSERV and folks can react. We could end up grouping it somehow to organize it. Then you can have a bit more discussion about who, what, when, where, and how.

STAUDERMAN: We should just add the prioritization list, and if people think the prioritization survey form is worthwhile, they want to elaborate on that and publish it for the wider community.

JIMENEZ: Ok, so that's about it, right, Sherry? We're done. Thanks so much to everybody for coming. I had a great time and it was really great to see people. I appreciate everybody who's been involved

COMMENT: I've been in and out of the conversation for a couple of years now. I have to say, as someone who took a big step back, there is really noticeable progress. That is something that needs to be said once in a while, because the conversation has moved.

# ***Looking Back/Looking Forward: A Symposium on Electronic Media Preservation***

## ***A Report to the Field: Focus, Actions, Next Steps***

“The American television and video heritage is now at a crossroads. One direction leads toward catastrophic losses of film and videotape, with the likely exception of studio and network programs in corporate archives that can be recycled for new income. Another direction leads toward the managed preservation of extant television and video materials that bear an important relationship to American history and culture regardless of their reuse potential or monetary value.”

- Television and Video Preservation 1997: A Study of the Current State of American Television and Video Preservation, Volume 1, page 123

On May 31<sup>st</sup> and June 1<sup>st</sup> over 50 media arts professionals, conservators, technical experts, and artists gathered at the historic firehouse home of Downtown Community TV Center in New York for ***Looking Back/Looking Forward***, a working symposium on moving image preservation, organized by the Experimental Television Center in association with Independent Media Arts Preservation (IMAP) and Bay Area Video Coalition. Focused on the physical preservation of independent electronic media works and related issues concerning tools and ephemera, *Looking Back/Looking Forward* facilitated an honest and sometimes disturbing evaluation of our progress as a field and informed discussion about necessary and realistic initiatives and partnerships.

Participants at the symposium included representatives of Art and Science Laboratory (Santa Fe), Artists Television Access (San Francisco), Bay Area Video Coalition (San Francisco), Electronic Music Foundation, Electronic Arts Intermix, Experimental Television Center, George Eastman House, Guggenheim Museum, IMAP, la foundation Daniel Langlois (Montreal), La Guardia Community College, MercerMedia, Museum of Modern Art, National Museum of the American Indian, New York University Preservation and Cinema Studies Departments, New York State Council on the Arts, Smithsonian Institution Archives (Washington), Standby Program, Tate Gallery (London), The Kitchen, V Tape (Toronto), Video Data Bank (Chicago) and WNET.

Transcripts of the proceedings are available on the Experimental Television Center’s Video History site [www.experimentaltvcenter.org/history](http://www.experimentaltvcenter.org/history) and on the IMAP site. *Looking Back/Looking Forward* was also documented by Bay Area Video Coalition. With funding from the National Endowment for the Arts, BAVC is producing a DVD on videotape preservation. The DVD will include footage of presentations made at *Looking Back/Looking Forward* as well as other recent symposia organized by IMAP and ArtTable. The DVD will feature interviews with leading conservators, curators, media technicians and artists on issues ranging from the latest techniques to ethical issues and viewer experiences. The DVD will be distributed to museums, libraries, history archives, media arts organizations and colleges throughout the country.

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In addition to the transcripts, the Preservation resource area of the Video History Web includes two commissioned papers - *Video Preservation: The Basics* (2000, revised 2002) written by Sherry Miller Hocking and Mona Jimenez, and *Reel to Real: A Case Study of BAVC's Remastering Facility* (2002) written by Luke Hones, and edited by Sherry Miller Hocking and Mona Jimenez. There is also a selection of historically important texts concerning early efforts at media preservation.

The first day of ***Looking Back/Looking Forward*** was devoted to *Issues in Physical Preservation*, an intensive description and analysis of the remastering process. Led by Luke Hones (Artists Television Access), Heather Weaver, Kacey Koeberer, and Jon Selsley (all of Bay Area Video Coalition) the session followed the process of preservation from the arrival of a tape to its remastering: from inspection, to cleaning, to playback, and finally duplication. While focused primarily on 1/2" open reel, among the most endangered of video formats, the panel also explored the impact of the issues raised on other formats and on audio. In a technical discussion, the panelists presented hardware, including the intermediary devices used to monitor, measure, and "correct" the signals, as well as the documentation of the preservation process. "Reel to Real: BAVC's Remastering Model, a Case Study" by Luke Hones, concerning the history and configuration of the Bay Area Video Coalition's remastering facility, provides a detailed look at this topic.

Concluding the first day, *The Economics of Physical Preservation* led by John Thomson of Electronic Arts Intermix, Kate Horsfield of Video Data Bank, and Lisa Steele and Kim Tomczak of V Tape presented the realities and difficulties faced by non-profit organizations as they struggle with preservation. What are possible models for getting the job done and what are the real costs? What kinds of problems of access and maintenance do the hardware and devices pose and how can we solve them? What does this discussion of economics tell us about where we need to go from here?

MercerMedia hosted a reception on Friday evening, which allowed participants to meet informally and to familiarize themselves with the post-production services and media streaming solutions for independent producers provided by MercerMedia and through a collaboration with the Standby Program.

Saturday morning opened with *Media Formats Update and Discussion* led by Mona Jimenez (Materia Media) and independent media artist Steina Vasulka. Mona briefly summarized the different points of view in the archival and media arts communities concerning formats. Steina opened the discussion to the range of practical solutions to the remastering question, employing readily available resources. What do archivists and other professionals recommend for a "preservation format"? What are the pros and cons of various formats? How do these recommendations apply in practice to the independent media community?

In *Assessing a Collection for Preservation* Sarah Stauderman (Smithsonian Institution) introduced a working tool of her own design, the preservation priority worksheet for video tape collections, which seeks to standardize an approach to accessing a collection. It is based on a summary of the questions archivists and conservators typically ask when prioritizing a list of works from a collection for possible remastering. How do cost and complexity of the remastering process impact decisions? In practice, how are works selected for remastering? Are there similar issues when tackling preservation of hardware and tools?

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The afternoon session, *Issues in Capturing Related Histories*, was presented by Alain Depocas of the Daniel Langlois Foundation, Woody Vasulka of Art and Science Laboratory, and Joel Chadabe of the Electronic Music Foundation. A model for the presentation of historical documents on the web, and issues of preservation of performative media were presented. Media preservation must address needs ranging from intermedia performance, and installations and also artists' instruments, tools and paper ephemera, all of which provide a richer context to enhance understanding of the tapes we are trying to save and the history of electronic media art.

The final session of the day concluded with a frank and honest discussion of the next steps, facilitated by Dara Meyers-Lingsley of IMAP and Luke Hones. Among the topics discussed and the actions identified were these.

## **FOCUS TOPICS**

### ***Information exchange***

- < broaden the conversation to increase learning opportunities and prevent duplication of effort and service
- < share information resources with an international community

### ***Enrich the presentation of media history***

- < participation by the entire community
- < preservation of documents and records which provide context for the history
- < collection and dissemination of information held by pioneering artists and groups
- < providing public access to these documents for research purposes

### ***Economies of scale***

- < analysis of existing solutions and identification of additional needs, particularly in areas of remastering and storage
- < creation of stable public/private partnerships
- < identification of range of solutions appropriate to existing resources
- < relationships of exhibition, production and distribution centers to preservation activities

### ***Research***

- < support for research directly relevant to electronic moving image preservation
- < outreach to corporate communities with needed resources, expertise and information
- < facilitate better understandings of where archival research is being conducted and published

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### ***Selection strategies for public collections***

- < relationships of public to private collections
- < curatorial roles in preservation

### ***Public policy concerns***

- < methods of influencing dominant cultural policies to better serve needs of independent media communities

### ***Communication***

- < development and transmission of useful and usable information to funders
- < creation of methods to facilitate transfer information from the pioneers to the newer generations of media artists and activists
- < broaden inter-field and intra-field communication avenues

### ***Education***

- < identify the different needs and priorities for core constituents, media professionals, funders, and the general public
- < establish historical contexts from which to view preservation work
- < examine standards of ethical practice for moving image works

### **ACTIONS**

- < research best practices internationally
- < expand constituencies
- < develop pilot union catalog
- < preserve early knowledge-base
- < conduct interviews with early pioneers - artists, technicians, inventors
- < identify existing communications pathways and organizations with a stake

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## STRATEGIES FOR IMPLEMENTATION / NEXT STEPS

- < small group meetings charged with reporting to larger communities
- < use of web-based forms - email and listserves
- < use of existing organizations and their communications voices and resources
- < internships and mentorships to help educate about the tapes and objects
- < conservation case studies
- < de-localization of the problems
- < support for new and existing publications - concerning conservation practices that work; the early historical contexts of media works
- < clearinghouse with centralized access for information

*Looking Back/Looking Forward* is an activity of the Center's **Video History Project**, an on-going web and research initiative begun in 1994 to reflect the complex evolution of the media arts field, and encourage a collective voice in the crafting of our histories.

The goals of the Video History Project are to provide a dynamic vehicle for the creation and dissemination of an inclusive media history, crafted by those who are shaping it; to help establish bridges for intellectual access to information and to position independent media arts activities within a broader cultural context by cultivating research and public programming of these materials by those in the arts, humanities and sciences; and to encourage alliances among collecting institutions and educational and curatorial programs for the preservation of critically endangered works, instruments and documents.

Launched in 2000, the Video History Website continues to serve as both a research collection and dissemination medium. The site structure depends on 9 interrelated resource databases containing a total of about 3500 records. The resource areas concern People, Tools, Groups, Distribution and Preservation. The Bibliography resource area contains over 1000 entries. In the Chronology area you can generate a timeline of events in media arts history, or view the events within a defined range. The search function allows visitors to search all of the records, encouraging the visitor to discover broad interconnections among people, places and events. Each resource area contains historically significant texts, descriptive information and extensive links. Visit at [www.experimentaltvcenter.org/history](http://www.experimentaltvcenter.org/history).

*Looking Back Looking Forward* was organized by the Experimental Television Center (ETC) in association with Independent Media Arts Preservation (IMAP), Bay Area Video Coalition and the Electronic Media Specialty Group of the AIC (American Institute for the Conservation of Artistic and Historic Works). *Looking Back/Looking Forward* was hosted by the Downtown Community Television Center and made possible with public funds from the Electronic Media and Film Program of the NYS Council on the Arts, and assistance from IMAP, MercerMedia and Dave Jones Design. The symposium was organized by Sherry Miller Hocking, Assistant Director of the Experimental Television Center, and independent consultant Mona Jimenez.

## EXPERIMENTAL TELEVISION CENTER

Looking Back/Looking Forward: A Symposium on Electronic Media Preservation

May 31 – June 1, 2002

A Report to the Field: Focus, Actions, Next Steps

The Video History Project has received support from The Andy Warhol Foundation for the Visual Arts, Statewide Challenge Grant Program, the New York State Council on the Arts, and New York Foundation for the Arts Technology Planning Grants Program, and from the Everson Museum of Art, the Media Action Grant Program of Media Alliance, and the Institute for Electronic Arts at Alfred University. Corporate support has been provided by Blackhammer, Dave Jones Design and VidiPax as well as individual contributors. Partners have included the New York State Alliance for Arts Education, IMAP, BAVC and the Electronic Media Specialty Group of AIC. The Project is under the direction of Sherry Miller Hocking of the Experimental Television Center; independent preservation consultant Mona Jimenez served as major contributor for conference and web planning and for the symposium. David Jones Design implemented the web design, and David serves as webmaster.

Sherry Miller Hocking  
Owego  
August 2002

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EXPERIMENTAL TELEVISION CENTER  
Looking Back/Looking Forward: A Symposium on Electronic Media Preservation  
May 31 – June 1, 2002  
A Report to the Field: Focus, Actions, Next Steps

Dear Friends,

In June 2002, the Experimental Television Center held the symposium “Looking Back/Looking Forward” to investigate how we can expand the options for physical preservation and the preservation of related devices and ephemera. Representatives were invited from media arts centers, universities, museums, archives and post-production facilities, along with technicians, artists, funders, and preservation consultants. We invite you continue the dialogue with us.

The symposium was a combination of information sharing, brainstorming and strategizing. The symposium was videotaped, and the tapes are being transcribed and will be available at the end of the year at ETC’s Video History web site (<http://www.experimentalstvcenter.org/history>).

In the closing session, the question was posed: “Where do we go from here?” The following is a summary of the actions suggested, and observations voiced by participants. Please jump in: email your reactions and comment, update us on related activities, volunteer to take on a task, suggest or initiate a collaboration. The proposed actions are in no particular order; so we also encourage your comments on how they should be prioritized.

Mona Jimenez

Proposed actions:

1. Conduct a study of independent media preservation efforts internationally for distribution internationally - particular mention was made of efforts in the Netherlands.
2. Conduct a survey to collect descriptions and contacts for preservation initiatives, such as BAVC's project to create a DVD on video preservation, the Variable Media Initiative, and research by the Image Permanence Institute. Do at least a portion of this information-gathering through web-based data collection (Artist Television Access may help with this.)
3. Establish best practices on specific areas of preservation, use a tiered approach with small working groups who test theories, make recommendations, and bring to a larger body for discussion.
4. Connect to, involve and dialogue with the next generation of preservation activists by offering internships in collections for students enrolled in

Moving Image Preservation Programs (such as UCLA, NYU, George Eastman House).

5. Investigate the feasibility of a direct tape-tape duplication system, where the tape doesn't have to pass through a tape path on a deck. (Luke Hones and Bill Etra may help with this.)
6. Prepare detailed guides about technical issues with older videotapes: how to spot problems with the physical object and how to spot playback problems. For example, it is particularly important to distinguish between the look of productions made with of 1/2" open reel equipment (editing glitches, softness of image, etc.) and the results of subsequent tape defects or equipment problems.
7. Create a study collection of older equipment, including artist instruments/devices, with technical documentation such as manuals, and videotapes of how to use the equipment.
8. Locate older equipment through a survey of media arts organizations and related groups. (NAMAC could be asked to do this, and Artist Television Access may help with an online survey form and database.)

9. Carry out an oral history project with artists and designers who created artist instruments and devices, and who have developed one-of-a-kind devices that are part of installation works.
10. Continue and expand the mechanisms (such as the ETC web site, Woody Vasulka's site and the Kinetic History site of Electronic Arts Intermix) to collect multiple histories of early video - creating a fuller picture of such areas as artistic practices, aesthetics, politics, and organizational infrastructure.
11. Create consensus on ethical standards for media preservation. Look at the standards of practice used in conservation and archival communities as models to begin the discussion.
12. Continue to explore the complex preservation issues with technology-based installation work raised by the 2000 symposium TechArcheology: Installation Art Preservation.



13. Raise awareness of the need for preservation through exhibition programs combining historical and contemporary productions; i.e., showing activist tapes from the 1970's with current activist video.
14. Ask NAMAC to take on a specific task (such as equipment survey above) to advance preservation work.
15. Connect to other efforts at the forefront for NAMAC (such as media literacy) to go beyond a segregated discussion about preservation.
16. Raise awareness with funders and supporters of the need for preservation.

Observations:

- We are making progress! There has been significant increase in the amount of information available on media preservation and media history, and in the networking between different groups working on or concerned about preservation.
- Media preservation is an international problem; we need to learn more about efforts in other countries and find ways to collaborate and share information to prevent "re-inventing the wheel".

- We need to focus on what we want to see happen - a “wish list”, and less on projecting how it will happen - we may not be able to imagine all possible solutions.
- We need to come to consensus around preservation practices and dissemination the knowledge.
- We need to pass along our knowledge and passion, including our technical expertise and understanding of the aesthetics and production of early media works, to a new generation of preservation activists.
- Trends toward editioning of media works, and increased collection by individuals and private galleries raises questions about availability of the works to the public (through public institutions and non-profit distributors), and how they are being preserved.
- The contextualization and preservation of media works will come from contributions to video history sites and repositories, with “the data creating the history.”

***Looking Back/Looking Forward:  
A Symposium on Electronic Media Preservation***

**Invited Participants**

Mindy Aronoff, Director of Creative and Media Services  
Bay Area Video Coalition

Anthony Bannon, Director  
George Eastman House

Ann Butler, Archivist  
New York University Fales Library and Special Collections

Joel Chadabe, President  
Electronic Music Foundation

Tony Conrad  
University at Buffalo Dept. of Media Studies

Alain Depocas, Head of Center for Research and Documentation  
la foundation Daniel Langlois

Paula DeStefano, Barbara Goldsmith Curator for Preservation  
Preservation Department Bobst Library NYU

Christopher Eamon, Consultant

Bill Etra, Technical Consultant

Jean Gagnon, Director of Programs  
la foundation Daniel Langlois

Marie Grieco, Consultant

John Hanhardt, Senior Curator Film and Video  
Guggenheim Museum

Karen Helmersen, Director  
Electronic Media & Film Program New York State Council on the Arts

Ralph Hocking, Director  
Experimental Television Center Ltd.

Sherry Miller Hocking, Assistant Director  
Experimental Television Center Ltd.

Luke Hones, Director  
Artists' Television Access

Kate Horsfield, Director  
Video Data Bank

Jim Hubbard, Preservation consultant

Chrissie Iles, Curator  
Film and Video Program Whitney Museum of American Art

Andrew Ingall, Collections Manager  
Archive of Broadcasting at the Jewish Museum

Jon Ippolito, Curator of Media Arts  
Guggenheim Museum

Mona Jimenez, Preservation consultant

David Jones, President  
Dave Jones Design

Kacey Koeberer, Preservation Manager  
Bay Area Video Coalition

Alicia Kubes, Administrative Coordinator  
Moving Image Archive and Preservation Program Cinema Studies Tisch School of Arts, NYU

Paul Kuranko  
Guggenheim Museum

Pip Laurenson, Sculpture Conservator of Electronic Media and Kinetic Arts  
Collection's Centre Tate Gallery

Carole Lazio, Consultant  
Smithsonian Institution Film and Video Center National Museum of the American Indian

Barbara London  
Department of Video and Film at the Museum of Modern Art

Catherine Martinez, Director of Distribution  
Downtown Community TV Center

Paul Messier  
Boston Art Conservation

Dara Meyers Kingsley, Director  
Independent Media Arts Preservation

John Minkowski, Independent Researcher

Gerald O'Grady, Independent Researcher

Carol Parkinson, Director  
Harvestworks

Daisy Pommer  
Tape Library WNET/13

Paige Ramey, Director of Product Development  
Bay Area Video Coalition

Somi Roy  
Consultant

Robin Schanzenbach, Director  
Media & Television Services New York University

Kenneth Schlesinger, Director of Media Services  
Media Services LaGuardia Community College CUNY

Bill Seery  
MercerMedia

Jon Selsley, Senior Preservationist/Systems Integrator  
Bay Area Video Coalition

Debby Silverfine, Deputy Director  
Visual Arts Team New York State Council on the Arts

Sarah Stauderman, Electronic Media Conservator  
Smithsonian Institution Smithsonian Institution Archives

Lisa Steele, Director  
V Tape

Chris Straayer, Chair  
Tisch School Cinema Studies Department NYU

Carol Stringari, Conservator  
Guggenheim Museum

Dan Summer, Founder  
DV Labs

Linda Tadic  
HBO

John Thomson, Director of Distribution  
Electronic Arts Intermix

Kim Tomczak, Director

V Tape

Woody Vasulka  
Art and Science Laboratory

Steina Vasulka  
Art and Science Laboratory

Maria Venuto  
Standby Program

Maria-Christina Villaseñor, Curator of Film and Media Arts  
Guggenheim Museum

Tim Vitale  
Digital Imaging and Conservation Treatment

Stephen Vitiello  
The Kitchen

Elizabeth Weatherford, Director, Video Center  
Smithsonian Institution National Museum of the American Indian Video Center

Heather Weaver, Senior Online Editor  
Bay Area Video Coalition

Julie Zando, Film and Video Curator  
Film and Video Program Hallwalls

Ghen Zando-Dennis,  
Independent curator

Lori Zippay, Director  
Electronic Arts Intermix